

ROYAL BURGH OF ST. ANDREWS.

REPORTS

BY THE

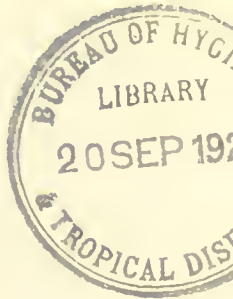
Medical Officer of Health,

Veterinary Inspector

AND

Sanitary Inspector

For the Year 1927.



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To the Scottish Board of Health, The Provost, Magistrates and
Town Council of the Royal Burgh of St. Andrews.

Gentlemen,

I have the honour to present a Report on the Health of the Burgh of St. Andrews for the year 1927, in submitting which I avail myself of an opportunity of acknowledging the ready support and valuable assistance rendered by all those associated with me in the health activities of the Burgh.

I have the honour to be,

Gentlemen,

Your obedient Servant,

G. MATTHEW FYFE, M.B., Ch.B., D.P.H.,
Medical Officer of Health.

May, 1928.

Public Health Department,
St. Andrews.

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ANNUAL REPORT, 1927.

It is to the general practitioner that the nation owes its health service and it is to the general practitioner that the health service turns in times of pressing need, as was instanced by the Health Insurance Act of 1911, the introduction of which was impossible without the willing co-operation of the general practitioner. He is, indeed, a vital part of the medical service of the state, though the fact may not be recognised as fully as it should be. He has made the medical officer of health. To what extent does he now enter into the schemes of the medical officer of health ?

Let us review the situation in the light of the present day experiences. What is the attitude of the people towards the doctor ? What is the relationship between the general practitioner and the health officer ? How is medical progress affected ?

The attitude of the people towards the doctor.

There is a general feeling that a change has come over the relationship between the doctor and his patients. The *entente* between patient and doctor is gradually weakening. In the opinion of many, several factors have contributed towards this. Chief among them, perhaps, must rank the disappearance of the family doctor, towards whose exit, it must be admitted, facilities for treatment and instruction provided under public health legislation, may have contributed. The modern hospital and the ubiquitous specialist have also had an influence, because both patient and doctor have come to rely upon those services, sometimes to such an extent that the doctor is little more than an intermediary. Perhaps as important a factor as any, however, has been a change in the attitude of the patients themselves. The lay mind, it is felt, is beginning to appraise, as never before, the worth of medical knowledge. Criticism is becoming open and trenchant. Medical men are finding that the people want to

understand about disease. They also want to know the facts of health. They are beginning to ask that their doctors should be as efficient at keeping them in health as they have been at treating them in disease. The health conscience of the nation has been wakened and a measure of aloofness has been engendered which will continue until the present trend of medical thought has been revised and changed.

The relationship between the general practitioner and the health officer.

It is more or less commonly admitted that that degree of co-operation which is desirable between the general practitioner and the health officer, is not always attained. Although varying in intensity in different localities, there seems to exist between the two, a barrier of suspicion. Mayhaps extensive public facilities for free investigation and treatment and the widespread activities of the National Health Insurance Schemes have given rise to anxiety in the minds of the general practitioners as to where it is all to end. It may be, too, that some feel that their livelihood is being menaced or that their positions as medical men are being jeopardised by the growth of clinics and centres. Indeed one has heard it suggested that the time will come when the status of the general practitioner will be that of a casualty clearing officer, regulating the dispatch of patients to hospital and clinics. Such fore-bodings, however, are unwarranted and fortunately not widely shared. One of the primary objects of public health administration is to advise and to help those who cannot or will not help themselves and any development of state medical service which threatened to weaken the position of the private practitioner, financially or otherwise, would, as will be pointed out later, react even more adversely upon the service itself. Nevertheless, a feeling of uneasiness is present. Medical Officers of Health are conscious of it. Sometimes they think it amounts to an obstructive attitude to their schemes. Sometimes it is no more than an apparent determination to have as little interchange as possible. In short it would sometimes seem as if the general practitioner were lacking in sympathy towards the ideals of public health service.

Obviously there are faults on both sides, because while the general practitioner may be suspicious or obstructive or unsympathetic, the medical officer of health is equally misguided if he takes no opportunity of getting to know the practitioners of his district, of consulting with them in his schemes or of endeavouring to gain their willing co-operation.

Influence on medical progress.

Clearly then it may be asserted that a new era is dawning in the medical world. The intelligent interest of the man in the street in his own body, in health more than in disease, is requiring, on the part of the general practitioner, a wider knowledge of the facts of health than at present most possess. If he is to be a successful *doctor* he will have to direct his energies more strenuously towards the detection and the meaning of early departures from the normal rather than towards the detection of late manifestations of disease. Above all the methods and the curricula of our teaching schools will have to alter so that the doctors of the future may secure as sound a training in clinical physiology as the doctors of the present have received in clinical pathology. The medical officer of health on his part must realise that no matter how perfect and comprehensive his schemes may be, without the invited and willing co-operation of the general practitioner, he can never reach the key to the fundamental secret of preventive medicine, namely the detection of the early signs of disease, because it lies in the hands of the general practitioners who, alone, see the people in health as well as in disease. The future success of medicine and of public health administration, accordingly, depends largely upon the work of the general practitioner.

The people cry for enlightenment. It can be given only after medical education has been revised and extended to include health as well as disease as a subject of study and only when the general practitioner and the health officer work together in fullest intimacy and trust. Then and not till then will the future of medical progress be fully assured and the nation's needs supplied.

"The general practitioner is an instrument of preventive medicine." With these words Sir George Newman recently concluded an inspiring address on "The Development of British

Public Health Administration," delivered to a gathering of Health Officers brought together, in London, from many different countries of the world. The statement is true and yet one would wish that its truth were wider. How much better it would be if one could say that the general practitioner is *the* instrument of preventive medicine.

The following report will amplify previous Reports in showing how the public health activities of St. Andrews have been organised to secure the support and co-operation of the general practitioners of the Burgh.

STATISTICAL COMMENTARY.

Population.

The population of the Royal Burgh of St. Andrews at the middle of 1927 was estimated at 9881 as compared with 9837 in 1926, an increase of 44. The excess of births over deaths was 12, so that, up to the middle of the year 1927, the roll of the Burgh had been increased by an estimated total of 32 immigrants.

The population of the Burgh is now probably in excess of 9881. Since the Census of 1921, on which is based the estimate for 1927, there have been considerable additions to the housing accommodation of the town, not only under the Town Council Scheme but also through private enterprise. In addition there has been, during the past few years, singular activity in the building trade, necessitating the immigration of a large body of workmen, many with families. Altogether there is good reason to assume that the actual population is slightly in excess of 10,000. In the summer months housing accommodation is at a premium, indeed, in some localities every room, or what passes for a room, is occupied. Accordingly, when the population is thus almost doubled, overcrowding does certainly exist and as, perhaps, is to be expected, the victims are, not visitors but permanent residents. This state of affairs is not peculiar to St. Andrews but is common to the vast majority of sea-side towns which attract summer visitors.

Birth Rate.

The total number of births (including illegitimate), corrected for transfer in and transfer out, was 108, of which 56 were male and 52 female.

The birth rate per 1000 of estimated population was 10·9, a decrease on the rate for the previous year by 0·5 and on the rate for the previous ten years by 0·48. With reference to the fall in the the birth rate it is of interest to note that 1927 gave the lowest Scottish birth rate ever recorded, namely 19·8 per 1000. Illegitimate births numbered 8, representing a rate of 7·4 per 100 total births. There was 1 still birth as compared with 4 in 1926.

Marriage Rate.

Forty-nine marriages were registered, representing a rate of 5 per 1000 of estimated population. In 1926 there were 44 marriages.

Death Rate.

Corrected for transfers, the number of deaths from all causes was 94, of which 36 were male and 58 female, the rate per 1000 being 9·5, a figure lower by 1·4 than the birth rate, higher by 0·5 than the rate for 1926, and lower by 0·55 than the average rate for the previous ten years. One death was due to the principal epidemic diseases, namely that of a child from whooping-cough.

The tuberculosis death rate has fallen steadily during the past five years. The rates are as follows :—

| <i>Year.</i> | | | | <i>Rate per 1000.</i> |
|--------------|----|----|----|-----------------------|
| 1923, | .. | .. | .. | 0·74 |
| 1924, | .. | .. | .. | 1·06 |
| 1925, | .. | .. | .. | 0·82 |
| 1926, | .. | .. | .. | 0·30 |
| 1927, | .. | .. | .. | 0·10 |

Infantile Mortality.

The excellence of the work done under the Mother and Child Welfare Scheme was again reflected in a low infantile mortality rate, the number of deaths occurring among infants being 46 per

1000 births. This figure compares very favourably with that for the whole of Scotland, which was 89 per 1000 registered births, with that for Fife, which was 79 and with that for the St. Andrews district of Fife which was 98.

The causes of deaths in infants during 1927 were prematurity, posterior basic meningitis, broncho-pneumonia and haematemeses neonatorum.

On the other hand there was a sudden increase in the number of deaths in the 1—5 age group. Calculated on the basis of deaths per 1000 births, the rate rose from 26 in 1926 to 56 in 1927. This increase, the highest since the inception of the Child Welfare Scheme, is referred to, in detail, in the Section of this Report dealing with the Scheme.

The following is the Registrar General's Table showing the causes of death in St. Andrews at various age periods :—

| No. | Causes of Death. | All Ages | | | Age | | | | | | | | | | | | | |
|-----|--|------------|-------|---------|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----------|--|--|
| | | Both Sexes | Males | Females | -1 | 1- | 5- | 10- | 15- | 25- | 35- | 45- | 55- | 65- | 75- | 85 & over | | |
| 1. | Whooping Cough, | 1 | 1 | 1 | 1 | | | | | | | | | | | | | |
| 2. | Other Epidemic Diseases, | 1 | 1 | 1 | 1 | | | | | | | | | | | | | |
| 3. | Tuberculosis of Respiratory System, | 1 | 1 | | | | | | | | | | | | 1 | | | |
| 4. | Malignant Tumours, | 14 | 6 | 8 | | | | | | | | 4 | 5 | 5 | | | | |
| 5. | Rheumatic Fever, | 1 | 1 | | | | | | | | | | | | 1 | | | |
| 6. | Apoplexy, | 11 | 2 | 9 | | | | | | | | 2 | 2 | 2 | 4 | 1 | | |
| 7. | Heart Disease, | 19 | 8 | 11 | | | | 1 | | | | | 3 | 6 | 6 | 3 | | |
| 8. | Bronchitis, | 5 | 2 | 3 | | | | | | | | | | | 2 | 3 | | |
| 9. | Pneumonia (all forms), | 5 | 3 | 2 | 1 | 3 | | | | | | 1 | | | | | | |
| 10. | Appendicitis, | 1 | 1 | | | | | | | | | 1 | | | | | | |
| 11. | All Diseases of Liver (not Malignant), | 2 | | 2 | | | | | | | | 1 | | 1 | | | | |
| 12. | Nephritis (Acute and Chronic) | 3 | | 3 | | | | | | | | | 1 | | 2 | | | |
| 13. | Other Dis. and Acc. of Pregnancy, | 1 | | 1 | | | | | | 1 | | | | | | | | |
| 14. | Diseases of Early Infancy and Malformations, | 3 | 2 | 1 | 3 | | | | | | | | | | | | | |
| 15. | Suicide, | 2 | | 2 | | | | | 1 | | | | 1 | | | | | |
| 16. | Other Violent Deaths, | 4 | 1 | 3 | | 1 | | | | 1 | | | | 1 | | 1 | | |
| 17. | Other Defined Diseases, | 17 | 6 | 11 | | 1 | | | | | | 4 | | 3 | 4 | 2 | | |
| 18. | Causes Ill-defined or Unknown, | 3 | 2 | 1 | | | | | | | | | 1 | 1 | 1 | | | |
| | All Causes, | 94 | 36 | 58 | 5 | 6 | | 1 | 1 | 2 | 4 | 10 | 16 | 23 | 18 | 8 | | |

Causes of Death.

Heart Disease.—Interference with the circulatory system by disease continues to be by far and away the commonest cause of death in the Burgh, 32 per cent. of the total deaths in 1927 being due to disease of the heart and blood vessels. Two thirds of the number were women and all, except one, who died at the age of 12, were over forty-five years of age.

It might be thought that the high mortality from this cause is due to the fact that so many people retire, during the later years of life, to St. Andrews after more or less strenuous labours elsewhere. But the surmise is not borne out by investigation, because the great majority of deaths from diseases of the heart and blood vessels have occurred in people who had spent the whole or the greater part of their lives in the town, and whose habits, so far as could be ascertained, had not erred on the side of excess. An explanation is difficult to find. The mortality from heart disease is high and is increasing in Europe and in America, while that from infectious diseases is comparatively low and is falling. If it be accepted as a fact that it takes, on the average, 40 years for a primarily non-fatal infection of the heart and blood vessels to result in a fatal issue, then, since it is only during the past 25 years that the great fall in the mortality from infectious diseases has occurred, these people died as a result of the epidemic waves of the "eighties" and 15 years or more must elapse before the present high mortality rate commences to fall. On the other hand, although there is considerable pathological evidence to show that there is a relation between infection in youth and cardiac death in old age, and that the more people who survive non-fatal infection in youth, the more there are who die an arteriosclerotic cardiac death in middle life and later, the evidence is not complete. It may be that the high cardiac mortality in later years is due to gradual and often premature aging and decay of the tissues, possibly related to the increasing stress and strain to which adults of the present century are exposed. In the inadequate condition of our knowledge no definite answer can be given but it is certain that preventive measures will have to be much more far reaching than ever before attempted, if the death rate from cardio-vascular diseases is to be effectively lowered and kept low.

Cancer.—Cancer again holds second place among the killing diseases in the Burgh, having accounted for 15 per cent. of the total deaths. All the cases were over 45 years of age. More women than men succumbed. Half the total cases, equally distributed among the sexes, died of cancer of the digestive tract. Among the women, one quarter died of cancer of the breast and another quarter of cancer of the womb. Cancer of glands accounted for the death of men but not that of women.

Respiratory Diseases.—Respiratory diseases claimed 11 per cent. of the total deaths. Age at death was either under 5 years or over 65 years, one person, only in the intervening age group, dying. Deaths among adults were slightly in excess of deaths among infants. The infants died of broncho-pneumonia, the adults of bronchitis. It is a remarkable fact that pneumonia, "the old man's friend," is not the common terminal respiratory disease among the aged in St. Andrews, as it is in most places. During the past five years more than three times as many persons over 65 years of age died of bronchitis as of pneumonia. If climate, in the popular sense, or extreme deviations of temperature, are related to mortality in pneumonia, that disease ought to be a very fatal one in St. Andrews, where weather conditions are rigorous and trying. Yet, although pneumonia is common in the town, death seldom results.

Violent Deaths.—Six per cent. of the total deaths was due to violence. Half the number were non-residents who died in hospital. Deaths among females were very much in excess of those among males. There was no particular age incidence, the deaths being evenly distributed over the age groups. Suicide accounted for two deaths in females.

ENVIRONMENTAL CONDITIONS.

Sanitary Conditions.

In a populous community an estimate, of considerable accuracy, can be made of the influences and conditions which are injurious to health, by ascertaining the localities in which occur the greatest number of cases of infectious diseases. Very significant facts emerge from such an investigation in St. Andrews. From a

review of the number of cases of diphtheria, gastro-enteritis, pneumonia and scarlet fever brought to the notice of the Medical Officer of Health, during the past few years, it becomes evident that the street in which the epidemic diseases most commonly occur, is North Street. Market Street is second. The vicinity of the east end of South Street, Abbey Street and Greenside Place comes third, while Shorehead is a noteworthy fourth. Except, then, for the neighbourhood of Maggie Murray's Bridge, from which comes a limited number of cases, the east end is the part of the town in which infectious diseases largely occur. Indeed were one to walk along the east end of Market Street, one would be, as it were, in the heart of the unhealthiest part of St. Andrews.

The factors which may tend to promote this state of affairs are three, namely, housing conditions, density of population and immigration of susceptible persons. The area of the town referred to contains by far the great majority of those derelict and insanitary houses referred to in the Report for 1926. It is in this area too that overcrowding commonly exists. Here, also, the greatest number of births occur, thus adding yearly fresh batches of children who quickly fall victims to infections arising in this less healthy environment.

The practice, too, of certain residents in the vicinity of the "Ladyhead" of tipping slops and other refuse into the street gutters is one to be entirely condemned and prohibited, as a very possible means of spread of infection.

Further reference will be made to insanitary housing conditions under the relevant section of this Report.

The measures adopted by the Town Council in 1926, against infestation by rats, have continued to meet with success. Traps and poison bait were laid by the rat catcher in all areas where rats were reported to exist. Complaints as to the presence of rats are becoming very much less frequent.

The burgh sewage system continues to give rise to complaints. During the course of the year the Kinness Burn was polluted to a minor degree in at least two places—one at Dempster Terrace from a crack in the main sewer and the other at Abbey Park from small defects in the temporary structure erected in 1926 to take

the place of a collapsed portion of the sewer. The measures taken to overcome the leakage at Dempster Terrace are referred to in the Report of the Sanitary Inspector. Commencement was made at the end of the year to lay down a new section of sewer, 152 yards in length, in the Abbey Park district. The Burgh Engineer has taken in hand a survey of the Kinness Burn with a view to ascertaining other possible pollutions and to determine the best means of coping with the flooding of the banks and neighbouring properties which occurs in times of storm.

The defects in sewage disposal in the east and west confines of the town, referred to in previous Reports, continue to exist, but it is intended that, when operations are completed on the new sewer at Abbey Park, attention will be turned to the Links Area.

Faecal masses continued to pollute the West Sands and have been a source of unpleasantness to both inhabitants and visitors. The attention of the Town Council was again drawn to the state of affairs and it was decided that during the present year a man should be detailed for scavenging work on the sands and that investigations be commenced as to the most practical means of removing the nuisance, on which account the possibilities of a process of screening should be kept in mind.

Considerable difficulty will be encountered and considerable expense will be incurred in remedying the present defects in the Burgh sewage system but the procedure is necessary and as the town expands, will prove increasingly urgent.

St. Andrews may not be able seriously to challenge other towns in the number of persons per motor car ratio but it gives a good account of itself in the number of persons per dog ratio. In 1927 there was one licensed dog to every twenty inhabitants. From many aspects, this may be regarded as a matter for favourable comment, but one could wish that the devotion of owners to their pets would extend to better control of the animals in the public streets. Dogs create a considerable nuisance in the town and in spite of the fact that the main streets are patrolled twice daily by employees of the Cleansing Department they are, nevertheless, seldom free from pollutions.

Atmospheric Conditions.

The sunniest month was June during which there were 194 hours of sunshine, equivalent to a period of 6·5 hours per day. The month with least sunshine was December when there were 15·9 hours of sunshine or 0·5 hours per day. The total amount of sunshine for the year was 1290·4 hours, which was less by 150 hours than the amount for the previous year.

The warmest month was July, the highest temperature reached being 75 degrees F. The coldest month was December when the highest temperature reached was 31 degrees F. The mean temperature for the whole year was 46·7 degrees F., that for the previous year being 47·8 degrees F.

The driest month was April when there was a rainfall of 1·08 inches, while the wettest month was August when there were 4·98 inches of rainfall. August, however, was closely approximated by September and October with 4·78 and 4·77 inches respectively. The total amount of rainfall for the year was 31·61 inches. The total number of rainy days was 188 and the greatest fall occurred on 14th August when there were 1·41 inches of rain.

The most prevalent winds were from the west and the least prevalent from the north.

Although the year was a wet one with a wet and dull summer, on comparison, St. Andrews was one of the driest and sunniest places on the east coast.

Offensive Trades.

Slaughtering of cattle, hide factoring and gut and tripe cleaning continue to be the only offensive trades carried on in St. Andrews. No new applications were made during the year.

The activities of the Veterinary Inspector and a change in the personnel have effected considerable improvement in the management and state of the Slaughter House, during the year. A much higher degree of cleanliness in the yard and booths was maintained and the records of slaughter were compiled with great exactness. Inspection of meat and general supervision of work was carried out in a thoroughly efficient manner. From the point of view of the efficiency of the staff, little is left to be desired.

On the other hand, the structural defects, referred to in the Report for 1926, continue to render the premises out of date and entirely unsatisfactory. A cooling chamber and a detention chamber are urgent requirements. Efficient means of moving carcasses from booths to chambers are desirable.

Towards the end of the year the attention of the Town Council was again called to the state of affairs at the Slaughter House and it was indicated that alterations were necessary. The Convener of the Cleansing Department Committee and the Sanitary Officials visited an up-to-date slaughter house in a neighbouring town and subsequently an expert in slaughter house construction was called upon to report on necessary improvements and to give estimates of the probable cost.

Housing Conditions.

When the various housing schemes of the Burgh have been completed the following number of houses will have been erected :

| | | | | |
|----------------------|----|----|----|-----|
| Two-roomed houses, | .. | .. | .. | 51 |
| Three-roomed houses, | .. | .. | .. | 112 |
| Four-roomed houses, | .. | .. | .. | 83 |
| Five-roomed houses, | .. | .. | .. | 12 |
| Total, | | | | 258 |

At the end of 1927, 234 of these houses were occupied. Sixteen three-roomed flats and 8 two-roomed flats had not been completed. Tenants for 9 of the three-roomed flats and for 1 of the two-roomed flats, however, had been secured. So that there remained a total of 14 houses to be allocated.

The following numbers of applicants for houses were on the register of the Housing Factor at the end of the year :—

| | 1927 | 1926 |
|--|------|------|
| Applicants for two-roomed houses, .. | 121 | 157 |
| Applicants for three-roomed houses, .. | 86 | 75 |
| Applicants for four and five-roomed houses, .. | 38 | 30 |
| Total, | 245 | 262 |

To meet their requirements, 7 three-roomed flats and 7 two-roomed flats remained to be constructed.

A moderate reduction has been effected in the course of the year in the number of applicants for two-roomed houses. On the other hand, the number of applicants for three, four and five-roomed houses has increased. The difference is partly to be explained by the fact that the majority of the houses erected during the year were of the two-roomed type.

A survey was undertaken by the Sanitary Inspector at the end of the year with regard to the number of overcrowded houses in the Burgh, previously referred to in the Report for 1926. The standard adopted in determining overcrowding was based upon Section 63 of the Burgh Police (Scotland) Act, 1903, 400 cubic feet being allowed per person and 200 cubic feet per child under 10 years of age. Overcrowding was found to exist in 9 one-roomed houses and in 19 two-roomed houses. There was no overcrowding in three or four-roomed houses. So that, as compared with the figures for the previous year, the condition of overcrowding has been relieved in 21 houses. This reduction has been due largely to re-arrangement in housing accommodation effected by the schemes. Overcrowding, however, still exists in 28 houses, all of which, as was stated above, were previously reported upon. Conditions of overcrowding were investigated in no other houses other than those already known at the end of 1926. The actual number is probably in excess.

When the number of houses erected under the Scheme is compared with the number of known overcrowded houses which have been relieved, calculations being based upon Provost Sloan's survey of 1923, it appears that while tenants have been found for 95 per cent. of the new houses, 60 per cent. of the overcrowding has been relieved. This lack of proportion, remarked upon in the Report for 1926, between the number of new houses occupied and the number of overcrowded houses relieved continues to exist. Nevertheless, it must be acknowledged that the housing schemes have effected an appreciable improvement in conditions of overcrowding.

No investigation of the habitability of existing dwellings was undertaken during the year nor was any action taken to deal with defective or uninhabitable dwellings. It was conjectured that the number of such houses would be between 50 and 100.

The number of houses estimated at the end of 1927, as then required adequately to meet the needs of the town was as follows :—

| | | |
|---|-----|-----------|
| Number of applicants for houses, .. | 245 | |
| Number of known overerowed houses, | 28 | |
| Number of defective or uninhabitable houses, | 75 | (approx.) |
| Total, | 348 | (approx.) |

Apart from the fact that a proportion of the applicants for houses are not resident in St. Andrews, the estimate is not an accurate one, because the total number of overerowed houses is not known and because the number given for defective or uninhabitable houses is based upon conjecture. While it is hoped that accurate figures will be available at the end of the present year, it can be stated now that the total number is not likely to be less than that submitted.

Regarding the housing subsidy and St. Andrews, it is felt that the time has come when no subsidy should be provided for better class houses, occupied by people who are able to pay.

Regarding rentals and St. Andrews, profiteering on the part of landlords and, in particular, of those who sub-let their rooms is no less common than in other towns. The practice, although iniquitous, is, to a certain extent, the outcome of legislation. The Rent and Mortgage Interest Restrictions Act has done much to prevent landlords from obtaining their legitimate profits and has considerably restricted the development of property. Indeed it would seem that there are as many reasons for repeal of the Act as for its continued enforcement. At the same time the bringing into operation of Part II. would go far towards improving the situation.

HOSPITAL FACILITIES.

The Hospital facilities available for the Burgh are as follows :—

City Hospital—Infectious Diseases.

Memorial Cottage Hospital—General Medical and Surgical Treatment.

Scores Nursing Home—General Medical and Surgical Treatment.

Home of Rest—Occasional Maternity cases.

Williamstead Hospital, Guardbridge—Smallpox.

Glenlomond Sanatorium—Tuberculosis.

Thornton Infectious Diseases Hospital—Ophthalmia Neonatorum.

St. Leonards School Seniors' Children's Convalescent Home provides accommodation for boys and girls convalescent from non-infectious diseases and disorders acquired in the larger cities of Scotland.

At the end of the year the Memorial Cottage Hospital and the Scores Nursing Home were inspected by the Medical Officer of Health with a view to registration under the Midwives and Maternity Homes (Scotland) Act, 1927, and reported upon favourably as regards their situation, construction, sanitation, accommodation, staff and equipment. In spite of the powers conferred by Section 15 of the Act to exempt from registration "any hospital or similar institution not carried on for profit and not used mainly for a maternity home" it was considered expedient that the Memorial Cottage Hospital should not be exempted and the Town Council was advised accordingly.

Extension of the services of the City Hospital to cases of Puerperal Sepsis is dealt with under the relevant paragraph of the Mother and Child Welfare Section of this Report.

The conveyance of infected persons and the disinfection of infected articles are dealt with in the Report of the Sanitary Inspector. At St. Leonards School infected persons are conveyed from Schoolhouses to Sanatorium in a horse-drawn cab hired from a local stable, the hirer undertaking to disinfect the vehicle. No attempt has been made to investigate the possibility of spread of infection through this arrangement, but it is obviously not entirely a safe one. The matter will be discussed with the persons concerned, during the present year, with a view to the provision of a more secure means of conveyance.

INFECTIOUS DISEASES.

The total number of notifications made to the Medical Officer of Health was 102. Classified according to diseases these were as follows :—

| | | | | | |
|-----------------------------|----|----|----|----|-----|
| Scarlet Fever, | .. | .. | .. | .. | 10 |
| Diphtheria, .. | .. | .. | .. | .. | 7 |
| Erysipelas, .. | .. | .. | .. | .. | 1 |
| Puerperal Fever, | .. | .. | .. | .. | 1 |
| Ophthalmia Neonatorum, | .. | .. | .. | .. | 1 |
| Chickenpox, | .. | .. | .. | .. | 10 |
| Malaria, .. | .. | .. | .. | .. | 1 |
| Dysentery, .. | .. | .. | .. | .. | 33 |
| Acute Primary Pneumonia, | .. | .. | .. | .. | 18 |
| Acute Influenzal Pneumonia, | .. | .. | .. | .. | 2 |
| Pulmonary Tuberculosis, | .. | .. | .. | .. | 12 |
| Non-Pulmonary Tuberculosis, | .. | .. | .. | .. | 6 |
| Total, | | | | | 102 |

Forty-one cases were removed to hospital and 61 were treated at home. Classified according to disease the number of cases treated in hospital was as follows, the average stay of patients in the City Hospital being 26 days :—

| | | | City Hospital. | Other Institutions. |
|-----------------------------|----|----|-------------------|------------------------|
| Scarlet Fever, | .. | .. | 10 | — |
| Diphtheria, .. | .. | .. | 6 | — |
| Puerperal Fever, | .. | .. | 1 | — |
| Chickenpox, | .. | .. | — | 8 |
| Dysentery, .. | .. | .. | 4 | — |
| Acute Primary Pneumonia, | .. | .. | — | 6 |
| Non-Pulmonary Tuberculosis, | .. | .. | 1 | 5 |
| Total, | | | 22 | 19 |

In addition three cases were admitted to the City Hospital for purposes of observation. Two of these were cases who were suspected to be suffering from Encephalitis Lethargica but who turned out to be influenza in the one case and shock complicated by a tuberculous condition of the right apex in the other. The third case was one of mumps complicated by nephritis, so that in all 25 cases were treated in the City Hospital.

SCARLET FEVER.

In common with what is being found elsewhere in this country all the ten cases which occurred in the course of the year were of mild type. Clinically nine of them presented definite signs of the disease and gave a positive Dick reaction during the first few days of illness and a negative reaction during convalescence. The tenth case although showing a classical throat and tongue did not have a very typical rash or appearance of the palate and was negative to the Dick test throughout. This case, the mother of a child with typical Scarlet Fever, was more severely ill than any of the others but although the diagnosis of Scarlet Fever was allowed to stand it was considered that she was suffering from influenza rather than from Scarlet Fever.

Diphtheria.

Seven cases of diphtheria were notified during the year. Klebs Loeffler Bacilli were isolated from five, none of whom were severely ill and all of whom gave a positive Schick reaction. The other two cases were negative to the Schick test and cultures from their throats did not contain diphtheria bacilli. All received toxoid-antitoxin.

Scarlatina and Diphtheria Immunisation.

Work on these lines proceeded very slowly during 1927. The low incidence and the mild nature of these infections during past years has made educational work exceedingly difficult. An opportunity, however, is never lost of impressing upon lay and medical minds the simplicity and value of the procedure. During the year 20 persons were tested for susceptibility to Scarlet Fever (Dick test) and 14 for susceptibility to Diphtheria (Schick test). Of the former 5 received protective inoculation against Scarlet Fever and of the latter 6 received combined protective inoculation against Scarlet Fever and Diphtheria.

It has been considered inadvisable to continue to insist upon the immunisation of all dairy workers against Scarlet Fever. Although immunity may be conferred upon them, they may still harbour the *Streptococcus Scarlatinae* in their throats and may, therefore, become a serious menace, because they can infect milk without showing any signs of themselves being infected. A

similar argument might be used against diphtheria immunisation, were it not for the fact that it is comparatively easy to detect, by bacteriological means, the carrier of the germs of diphtheria, while it is a difficult matter to identify a carrier of the germs of scarlet fever. Until such time as our knowledge of the casual agent of Scarlatina has been more fully amplified, this preventive measure will not be actively prosecuted.

Ophthalmia Neonatorum.

One infant, less than twenty-one days old, with discharge from the eyes, was reported in terms of the Regulation. There was no evidence of a gonorrhoeal infection.

Chickenpox and Smallpox.

Chickenpox became compulsorily notifiable throughout Scotland on 25th March 1927. Since that date 10 cases were notified, 8 of them occurring in St. Leonards School and 2 of them in the town.

No cases of Smallpox occurred in the Burgh during the year. As a result, however, of an outbreak of that disease in Dundee in March, considerable precautions were taken against spread of infection to St. Andrews. It was not deemed advisable to institute a wide campaign of public vaccination but all mothers attending the Mother and Child Welfare Clinics were urged to have their children vaccinated and, through the local practitioners and the Press, it was strongly advised that all those who travelled to Dundee should take similar steps. As a result, from figures submitted by the doctors concerned and from the records of the Health Department, it was estimated that some 400 persons were vaccinated. The majority of these were adults who worked in or visited Dundee.

So far as is known, 4 persons only were in direct contact with an infected case. These and all the members of their households were vaccinated. One of the contacts was occupied in a Depot issuing clothing to the girls in St. Leonards School. She was isolated until the expiry of her incubation period.

Investigation was made into the number of persons in St. Andrews who make a statutory declaration of conscientious objection to vaccination. Comparing the number of infants,

unvaccinated on account of the conscientious objections of their parents, with the total births in each year, the percentage of unvaccinated infants, during the past decade is as follows :—

| Year | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 |
|--------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Percentage of Unvaccinated Children, | 35 | 20 | 23 | 18 | 20 | 14 | 15 | 13 | 14 | 13 |

In other words, of 1050 infants born in the past ten years, 190 or 18 per cent. were unvaccinated. It is of interest to note that conscientious objectors reside, almost exclusively, in those areas, already referred to under the section of this Report dealing with Sanitary Conditions, wherein infectious diseases are most rife. While one respects the solemn statement signed by these individuals, one wonders to what extent their declaration was prompted by genuine conviction that vaccination is injurious to the health of a child and to what extent by determination to evade a possible interference with their freedom. Those who are approached as testators would be well advised to satisfy themselves fully on the point. Does the person object to vaccination as a cause of subsequent injury to the child or as a cause of subsequent vexation to the parent? It is now generally accepted that smallpox is the perquisite of those who choose to have it, that is, of the unvaccinated, and that these are a danger to the community. Fortunately there are some slight signs that their number in St. Andrews is diminishing.

Dysentery.

Towards the end of the year a small outbreak of Dysentery due to the *B. dysenteriae* Flexner occurred in the City. In all 33 cases were reported, of which 2 were doubtful. Bacteriological confirmation was made in nine. The majority of the cases were school children. The severity of the symptoms varied greatly from frequent loose stools without sickness to the passage of blood and mucus with severe prostration. One case died after a severe illness lasting 24 hours. Four cases were admitted to hospital, the others were treated at home.

The cause of the outbreak was not definitely established. The only article of diet common to the majority of infected persons was milk voluntarily supplied to the East and West Infant Schools from a farm in the County. On investigation it was found that one of the dairy workers at the farm had had several attacks of

diarrhoea, the last having been about three or four weeks before the commencement of the St. Andrews epidemic. Specimens from the dairymaid, however, gave no evidence of the presence of *B. dysenteriae* Flexner. The owner of the farm stopped the milk supply to the schools and it is worthy of note that, subsequently, one family only, developed the disease.

The facts that several cases, who had not been in contact with any known case, had not consumed the suspected milk and that, in a neighbouring village, to which milk was supplied from the same farm, no cases occurred, cast serious doubt upon the farm as the source of infection. Dr. E. R. Emslie, the interim Medical Officer of Health, in reporting on the outbreak, regarded the evidence of the cause of the outbreak as indecisive and discussed the possibility of a carrier of the disease as the initial cause and the appearance of fresh carriers as the means of spread

Pneumonia.

Twenty cases of pneumonia occurred during the year, two of them influenzal. The incidence was not confined to any age group, but was evenly distributed. There were 5 deaths, 4 of them in infancy.

Tuberculosis.

At the end of the year 24 persons were registered as known to be suffering from tuberculosis. Sixteen were males and 8 were females. Eighteen of them were suffering from tuberculosis of the lungs and 6 of them from tuberculosis of the bones or of the abdomen. There was one death—an elderly man with advanced disease of the lungs.

The majority of the pulmonary cases are progressing favourably. With one exception, that of an old man with tuberculosis of the spine, all the non-pulmonary cases are kept on the register merely for purposes of observation, there being no signs of active disease in any of them.

Facilities for institutional treatment are provided by Glenlomond Sanatorium. There is no indication of an improvement in the attitude of tuberculous patients towards sanatorium treatment. In every case it was advised by the medical attendant but one patient only, received treatment at Glenlomond during

the course of the year. Objections are, almost entirely of a trivial nature, the chief of them being the difficulty of visitation by relatives. Prejudice against this form of treatment is deeply rooted in St. Andrews.

Facilities for operation and for ultra-violet therapy are provided by the Memorial Cottage Hospital for cases of non-pulmonary tuberculosis. Four cases were operated upon during the year with excellent result.

During the year a scheme of Home Visitation of tuberculous patients was put into operation. The District Nurse was appointed, at a small fee per case per annum, to report on the progress of all cases, monthly, to the Medical Officer of Health. The reports have proved of great value to the Tuberculosis Officer, who, having a wide area to cover, is thus kept closely in touch with the condition of his patients, and is spared the necessity of paying needless visits to cases that do not require further advice. The medical practitioner concerned is also informed when there are indications that a patient is not continuing to improve. A considerable amount of useful information is being collected, too, regarding the environment and such intimate details as the sleeping arrangements of these patients. During the course of the present year a full report of the work of the Nurse will be submitted.

Tonsillitis.

Inflammatory conditions of the tonsils and throat were again the commonest infectious conditions in the Burgh. One of the most readily available methods of estimating the prevalence of these disorders is through the records kept under the National Health Insurance Acts. From the cards kept in one insurance practice of 1000 persons, it appears that catarrhs of the upper respiratory tract were the chief incapacitating diseases encountered during the year. The illnesses represented a loss of more than 300 working days. If to these numbers were added corresponding figures for influenza and common cold, diseases which vie with tonsillitis for first place among the most prevalent diseases, it would be realised how costly to the country in time and in money are the results of these common complaints, about which medical science is so ignorant.

An interesting comparison is found in St. Andrews in St. Leonards School for Girls. Conditions, however, are not parallel, because, under School conditions, the population is more closely confined, therefore more favourable ground for the spread of infection, while the immigration of infected individuals at the commencement of each term creates an epidemiological factor which is practically absent from the town. Nevertheless, a perusal of the sick register of the School provides very interesting information regarding the prevalence of non-notifiable infectious diseases and indicates that the strenuous efforts taken to prevent the occurrence of epidemics of notifiable infectious diseases are futile against the non-notifiable common infectious diseases. In the Spring, Summer and Winter Terms there occurred the following number of cases :—

| | |
|-------------------------|-------|
| Influenza, | 290 |
| Common Cold, | 75 |
| Tonsillitis, | 8 |
| Whooping Cough, | 6 |
| Chickenpox, | 11 |
| Mumps, | 64 |
| | <hr/> |
| | 454 |

Except for an epidemic of Mumps in the Spring term, the infectious diseases which materially affected the School were those of the upper respiratory tract. The loss of time resulting from these diseases is obviously great. They commence, as a rule, with catarrhal febriculae, which are acquired, in the opinion of Dr. J. H. P. Paton, the School Medical Officer, almost invariably during the train journey to School. These mild colds, after a few days or it may be weeks of passage, increase in their severity until, eventually, an epidemic, presenting all the clinical manifestations of influenza, is raging. In spite of the most careful precautions and procedures it is a very difficult matter indeed to abort these epidemics. The method adopted by Dr. Paton, however, of isolating in an observation ward every girl who shows a temperature of 98·4 degrees F., has proved of great assistance in the detection and prompt quarantine of early cases. With reference to this measure an article by Dr. Paton entitled "Variations in

Pulse and Temperature consistent with Health " published in the *Medical Press and Circular*, September 28th, 1927, should be of considerable value in extending our knowledge of methods for the prevention of spread of infection.

Of the 373 girls who suffered from infectious diseases of the upper respiratory tract, 9 had received prophylactic injections of an anti-catarrrhal vaccine of the Public School type. These were the only girls in the School who had received prophylactic treatment and 2 of them were more severely ill than any of the others, vaccinated or unvaccinated.

The incidence of tonsillitis was comparatively low in the School. With reference to the present popularity of operations for the removal of the tonsils Dr. Paton has prepared for publication a paper on the observed state of the tonsils of 424 girls. It is permitted to state here that 43 per cent. of these girls gave a history of operation of whom 54 per cent. still showed visible tonsils. Surely strong justification is required for the removal of almost half the tonsils of any community and surely some alteration in technique is indicated when more than half of the removed tonsils are still visible? Dr. Paton's paper which compares the medical histories of girls from whom tonsils had been removed with the medical histories of girls from whom the tonsils had not been removed will be awaited with great interest.

Venereal Diseases.

The following is a resume of the incidence of venereal diseases in the Burgh, the figures having reference to the number of cases diagnosed for the first time by the medical practitioners during 1927.

Syphilis.—Thirteen cases of syphilis were met in general practice. Classified according to type these were as under :—

| | | | Male. | Female. |
|------------------------|----|----|-------|---------|
| Congenital, | .. | .. | — | 1 |
| Primary, | .. | .. | — | — |
| Secondary, | .. | .. | — | — |
| Tertiary, | .. | .. | 5 | 3 |
| Neurosyphilis, | .. | .. | 4 | — |
| | | | — | — |
| Total, | .. | .. | 9 | 4 |
| | | | — | — |

The low incidence of congenital syphilis is noteworthy. Considering the facts that 83 per cent. of the babies of the town were under observation at the Child Welfare Centre and that careful enquiry was made of the general practitioners as to cases known to them, the figure is to be taken as an accurate indication either of a low prevalence of the disease or of effective measures against it. That the case is probably the former can be deduced from the absence of early manifestations of the disease in the Burgh and from the fact that the majority of persons showing late manifestations were well over 45 years of age. In 1926, 13 cases of congenital syphilis were reported to have been seen for the first time. It can now be stated, however, that that number was really a representation of the total incidence of congenital syphilis in the town, so far as was then known to the general practitioners. For a population of 10,000, then, to show an incidence of only 14 cases of congenital syphilis is a remarkable tribute to its health.

Gonorrhoea.—Thirteen cases of gonorrhoea were treated during the year, 7 of them males and 6 of them females.

Treatment.—Treatment was provided at home or in the special clinic at Dundee. Three cases of syphilis were treated at the Clinical Institute. Three courses of salvarsan substitutes, comprising 29 doses, were administered by the Medical Officer of Health, and three, comprising 27 doses, by general practitioners.

Laboratory Facilities.—Laboratory investigations were undertaken in the Bacteriology Department of the University College, Dundee, under the combined scheme with the County or in the laboratories of the Clinical Institute. Routine examinations continued to be made at the Institute on specimens submitted from the Child Welfare Clinics.

MOTHER AND CHILD WELFARE SCHEME.

Infantile Mortality.

The number of deaths in infants under one year of age was 5, representing a rate of 46 per 1000 births, calculated on the estimated population to the middle of 1927. This mortality would have been lower but for the fact that one infant acquired and died of pneumonia in Dundee. As it is, however, the rate is

practically equal to that of last year, when it was found that the number of deaths in infants had been halved since the adequate establishment of the Scheme, According to age groups the deaths may be classified as follows :—

(a) Under one week—4 (37 per 1000 births).

(b) Six months and under 1 year—1 (9 per 1000 births).

According to causes of death they may be classified as follows :—

| | | | | | |
|-----------------------------|----|----|----|----|---|
| Premature Birth, | .. | .. | .. | .. | 2 |
| Pneumonia, | .. | .. | .. | .. | 1 |
| Haematemesis Neonatorum. | .. | .. | .. | .. | 1 |
| Posterior Basal Meningitis, | .. | .. | .. | .. | 1 |

Mortality in Children (1—5 years).

The satisfaction which results from a falling infantile mortality rate does not extend to the death rate among children of the 1—5 years age group. This rate in 1927 was 56 per 1000 births and is the highest yet recorded since the commencement of the Scheme. The causes of death were as follows :—

| | | | | | |
|-----------------------|----|----|----|----|---|
| Pneumonia, | .. | .. | .. | .. | 3 |
| Whooping Cough, | .. | .. | .. | .. | 1 |
| Dysentery, (Flexner), | .. | .. | .. | .. | 1 |
| Burning accident, | .. | .. | .. | .. | 1 |

It is a regrettable fact that the great majority of these deaths were from preventable diseases of infectious nature. While indications may be towards a more intensive education of mothers and children by Mother and Child Welfare workers, it is perhaps necessary to point out that there is evidence of deliberate carelessness and disregard by certain mothers in their behaviour towards infectious diseases. For instance, the whooping cough epidemic of the summer months of 1927 was kept going largely on account of the fact that mothers allowed infected children to play, with other children, in the streets and public places where it was by no means uncommon to find a child “whooping” sometimes to the extent of vomiting. The advice and firm instructions of the Child Welfare Staff did much to relieve the situation but, in these enlightened days, it ought never to have occurred.

Births.

The number of legitimate births registered and corrected for transfer was 100, comprising 52 males and 48 females. The number of illegitimate births registered was 8, 4 being males and 4 females. The total number of births notified to the Medical Officer of Health was 106, of which 71 were attended by doctors and 35 by midwives. There was 1 still birth and 3 miscarriages. There was 1 twin labour. Ten infants, including the twins, were born alive prematurely.

Maternal Mortality.

No deaths occurred in child birth in the practice of either doctors or midwives.

Report under Midwives (Scotland) Act, 1915.

Three Midwives gave notice under Section 18 of their intention to practise inside the Burgh. There was 1 case of Puerperal Sepsis.

There were 12 cases of emergency, necessitating the calling in of Medical Practitioners, as follows :—

| | | | | |
|-------------------------------------|----|----|----|---|
| Laceration of Perineum, | .. | .. | .. | 7 |
| Delay in second stage of labour, | .. | .. | .. | 2 |
| Delay in third stage of labour, | .. | .. | .. | 1 |
| Difficult breathing and bad colour, | .. | .. | .. | 1 |
| Ante Partem Haemorrhage, | .. | .. | .. | 1 |

The calls for medical help equalled those of the previous year. All demands were justifiable.

One midwife is in residence in the Child Welfare Centre, her whole time being occupied with ante-natal work, with attendance at labours and with post-natal observations up to the age of 1 year. A second midwife, who is primarily engaged in " follow-up " work among children of the 2—5 age period, is available when the whole-time nurse is off duty. At no time are these two midwives on maternity duty together. No indications of malpractice occurred in the Burgh during the year and no investigation was called for. The hands, uniforms, equipment and registers of the midwives were inspected by the Medical Officer of Health.

Home Visitation.

On the register of the Child Welfare Centre there were, at the end of 1927, 501 children, 40 of whom were not visited, either because they resided at a distance in the County or because they had left St. Andrews before an opportunity of visitation occurred.

| | Number Visited. | Total Visits. |
|--------------------------|-----------------|---------------|
| Infants, | 211 | 1183 |
| Children (1—5 years), .. | 250 | 1341 |
| Expectant Mothers, | 104 | 388 |
| Total, | 565 | 2912 |

The following figures are applicable to the number of infants at the age of 6 months :—

| | |
|----------------------------------|----|
| (i) Breast fed, | 69 |
| (ii) Partially breast fed, | 11 |
| (iii) Artificially fed, | 25 |

Of the 25 instances of artificial feeding, half were the outcome of deliberate intention on the part of the mother.

Ante-Natal Consultations.

The St. Andrews scheme for ante-natal consultations was fully described in the Report for 1926. During the year the Scheme was approved by the Town Council, subject to the approval of the Scottish Board of Health. It was deemed advisable that the Clinics should be held in the James Mackenzie Institute for Clinical Research, which is the centre of medical activities in the Burgh but, for various reasons, the chief of which was the making of necessary alterations in the room allocated for the purpose, the Scheme was not put into operation. Full facilities will be extended to the practitioners of the Burgh during the present year.

Post-Natal Consultations.

No post-natal consultations are held in St. Andrews under the Scheme. Post-natal work is in the hands of the general practitioners, in the ordinary routine of general practice, and in the hands of the midwives who paid 1107 visits during the year in this connection.

Child Welfare Consultations.

The popularity of these consultations showed a further increase in 1927. Clinics are held by Dr. A. Rowand, twice weekly, in the Child Welfare Centre, in sessions lasting for $2\frac{1}{2}$ hours each. One hundred and three sessions were held in 1927, during which 253 children were inspected. The following attendances were recorded :—

(a) Number of children attending—

| | | | |
|--------------------------|----|----|-----|
| (i) Under 1 year of age, | .. | .. | 163 |
| (ii) 1—2 years of age, | .. | .. | 56 |
| (iii) 2—5 years of age, | .. | .. | 34 |
| Total, | .. | .. | 253 |

(b) Total number of attendances—

| | | | |
|--------------------------|----|----|------|
| (i) Under 1 year of age, | .. | .. | 930 |
| (ii) 1—2 years of age, | .. | .. | 324 |
| (iii) 2—5 years of age, | .. | .. | 56 |
| Total, | .. | .. | 1310 |

Sixty-four special clinics, in sessions lasting $2\frac{1}{2}$ hours each, were held by Dr. Rowand in the James MacKenzie Institute for Clinical Research, for children over 2 years of age

(a) Number of children attending, 251

(b) Number of attendances—

| | | | |
|---------------------------|----|----|-----|
| (i) 2—5 years of age, | .. | .. | 330 |
| (ii) Over 5 years of age, | .. | .. | 145 |
| Total, | .. | .. | 475 |

It was found that, when there was a child of 2—5 years attending, the mother liked to bring her older children, even although they were over 5 years of age and attending school. This was allowed and encouraged.

In addition to the above, 149 visits by infants under 1 year of age and 86 visits by children over 1 year of age were paid to the nurses at the Child Welfare Centre for purposes of direction as to feeding and baby hygiene.

Apart from the figures submitted, a useful lesson in the value of this branch of child welfare work in the town, is to be derived from the fact that 86 per cent. of the babies born in 1927 received the benefit of the services provided under the Scheme.

Concerning the illnesses recorded in 1927, Dr. Rowand reports, "Of 501 children on the register of the Child Welfare Centre, of whom approximately 350 were over 1 year and 150 were under 1 year, 126 of those, who had been under supervision, suffered from illnesses during the year, the actual number of illnesses being 195. Of the 126 children, 102 were over 1 year and 24 were under 1 year.

Respiratory Troubles were by far the most prevalent illnesses. Broncho-pneumonia occurred in 9 cases over 1 year and in 2 cases under 1 year. Acute Bronchitis occurred in 21 cases over 1 year and in 8 cases under 1 year. Nasal and bronchial catarrhs, sufficient to cause some disability without serious illness, occurred in 29 cases over 1 year and in 6 cases under 1 year.

Throat and Ear Troubles.—There were 8 cases of tonsillitis in children over 1 year. Enlargement of tonsils and/or adenoids occurred in 14 children over 1 year and in 3 under 1 year. Operations for removal of tonsils and/or adenoids were performed in 6 children over 1 year. Otorrhoea occurred in 6 children over 1 year and in 2 under 1 year. Deafness without otorrhoea was noted in 2 children over 1 year.

Enlargement of Cervical Glands occurred in 5 children over 1 year and in 1 child under 1 year.

Rickets occurred in 4 children over 1 year. Rickets has now practically disappeared among children who are continuously supervised during the first two years of life. An emulsion of cod liver oil is given to all infants who are artificially fed and by the generosity of a private donor, cod liver oil is provided at the Centre for older children who have need of it and whose parents are not in a position to buy it for themselves."

Special Treatment Centres.

No treatment is undertaken at the Child Welfare Centre and no special treatment centres are run in connection with the Centre. Treatment, however, to a considerable extent gratuitous, is provided by local practitioners and institutions, there being a marked

degree of co-operation between the Centre and outside agencies in this respect. For instance, some 6 mothers and 20 children were referred to dentists for treatment for earious teeth. Four children were treated for squint and 3 for conjunctivitis by doctors in the Clinical Institute. Thirty-one children were referred to general practitioners for treatment of various disorders. Ultra-violet light therapy is available in the Memorial Cottage Hospital but, although some children have received it, none was referred from the Centre.

Day Observation Nursery.

The Day Observation Nursery in connection with the Child Welfare Centre was attended by 42 babies.

Number of attendances—

| | | | | |
|--------------------------|----|----|----|-----------------|
| (i) Under 1 year of age, | .. | .. | .. | 824 |
| (ii) Over 1 year of age, | .. | .. | .. | 31 |
| Total, | .. | .. | .. | <hr/> 855 <hr/> |

No charge is made for attendance. There are no faeilities for securing the residence of ailing babies over night but it is hoped that during the present year these will be provided.

Food and Milk Supply.

One child suffering from malnutrition was supplied with one pint of milk daily for 5 weeks by the Parish Council. No other application for food or milk was made. A great amount of help in kind is given by private individuals. For instance one lady provides a necessitous family with milk daily and another keeps the Centre supplied with Cod Liver Oil.

In terms of the decisions of the Town Council and the St. Andrews Nursing Association, Certified Milk was procured for all patients under the Maternity and Child Welfare Scheme, as from the month of April 1927.

Measles and Whooping Cough.

No notification of any type is in force in the Burgh with regard to these diseases. So far as is known the number of cases of measles which occurred during the year did not exceed 10. All were treated at home and recoveries were uneventful. On the

other hand there was an outbreak of whooping cough of considerable dimension during the months June, July, August and September. It was estimated that somewhat more than a hundred children were infected. Spread of the infection was due largely to the fact that mothers allowed their children, although whooping and often vomiting, to play in the open streets and to mingle freely with other children. One infected child developed pneumonia and died. Reference has been made to the epidemic above, in the Section dealing with Mortality among Children.

Provision for Maternity Cases.

In accordance with the requirements of the Midwives and Maternity Homes (Scotland) Act, 1927, the Memorial Cottage Hospital and the Scores Nursing Home were inspected by the Medical Officer of Health. Both were reported upon favourably with regard to situation, sanitation, accommodation, staff and equipment. The Town Council, on being advised accordingly, granted certificates of registration and directed their exhibition in conspicuous places in the premises.

As was indicated in this Section of the Report for 1926, the Committee of the Memorial Cottage Hospital could not see its way to assist the Burgh by providing hospital accommodation for necessitous maternity cases. Attention was, therefore, directed towards the Scores Nursing Home, which was found to be suitably equipped and staffed. An estimate of the probable cost having been submitted, the Town Council advised, subject to the approval of the Scottish Board of Health, that necessitous maternity cases, living under conditions which had an injurious influence on their well-being, and necessitous cases of difficult labour be confined in the Scores Nursing Home. It was, also, directed that applications for the purpose should be made to the Medical Officer of Health. Confinements will be attended to by the Matron. Should the attendance of a doctor be necessary fees will rank as under the existing arrangements for medical assistance in cases of emergency, as under the Midwives (Scotland) Act, 1915. It is hoped that the scheme will be in full operation during the present year.

Provision for Puerperal Sepsis Cases.

The policy of the Town Council in this respect was outlined in the Report for 1926. Representations were made to the Scottish Board of Health and it was finally agreed that cases of puerperal sepsis occurring in the Burgh should be treated in the Burgh Fever Hospital. The cost was approved for the purposes of the Maternity and Child Welfare Grant. The Board, however, sanctioned the arrangement only in view of the special circumstances of St. Andrews and reserved the right to re-consider the matter at any time should they so decide.

WATER SUPPLY.

The position with regard to the water supply of the town was described in the Report for 1926, and certain proposals submitted to the Town Council were indicated, namely that—

- (a) Additional filters be provided,
- (b) Existing filters be renovated,
- (c) Wanton waste be checked,
- (d) Means of safeguard be taken against possible sources of contamination in the catchment area.

All the proposals were agreed to by the Town Council and by the autumn of 1927, four new filters, constructed on modern lines, were laid down. Commencement was made in renewing the sand and part of the gravel layers in some of the old filters and preliminary steps were taken in the installation of a water meter, the means available for measuring the rate of filtration being decidedly primitive. The water from certain highly polluted streams was by-passed to the sea. Other streams in the higher reaches of the catchment area were cleaned and fenced. Negotiations were well advanced towards the purchase of more land in the catchment area. A waterman was appointed to inspect the fittings in the town for leakage and for wanton waste, with the result that the consumpt of water per head per day fell from 69·55 gallons in 1926 to 63 gallons in 1927.

In spite, however, of these measures, no great improvement resulted in the bacteriological purity of the water supply. *Bacillus Coli* continued to be found in quantities of water varying from 10 c.c. to a fraction of 1 c.c. It was obvious that the process of

filtration was faulty, either because the filtering medium was too coarse to retain micro-organisms or because the rate of filtration was too rapid to permit of bacteriological cleansing. At the end of the year investigations on these lines were in hand.

In the month of November the water was found to give off a smell which became particularly offensive when the water was heated. The cause of the odour was found to be possibly, decaying vegetable matter, particularly American Weed, in Cameron Reservoir. The water supply to the town from Cameron was shut off, a plentiful supply being maintained from the other two reservoirs but the filters and the wells, having become contaminated, were still a source of pollution. It was found necessary therefore, to submit these to a process of liming and also to treat Lambielesham Reservoir, which had received water from Cameron Reservoir, to a like process. These measures resulted in a complete removal of the odour and also in producing, as was to be expected, a water of much higher bacteriological purity than had been found in the experience of the present Medical Officer of Health. Meanwhile, Cameron Reservoir was treated with Copper Sulphate in the hope that, in addition to its known effect on algae, it might hasten the destruction of the American Weed. This weed appeared in the reservoir 13 years ago, since when it has been a constant source of trouble and, in the autumn has necessitated the employment of a gang of men equipped to effect its collection and removal. In the opinion of the Water Engineer the use of Copper Sulphate tended to hasten the process of decay of the stem of the weed where it emerged from the mud and rendered collection a much more easy matter. Whether or not the chemical had a killing effect on the plant will be seen in the present year.

FOOD SUPPLY.

Milk.

The various requirements of the Milk and Dairies (Scotland) Act, 1914, as amended by the Milk and Dairies (Amendment) Act, 1922, were attended to during the year. Bye-laws framed under the Act, were approved of by the Scottish Board of Health. These contained several additions to and departures from the

Model Bye-laws submitted by the Board. For instance, in cow-sheds or byres "the length of the stalls shall be such as will meet with the approval of the Local Authority" and "No implements of any description or any other article shall be kept in a cowshed or byre and all implements or articles as may be required for cleansing purposes shall be removed immediately after use." Adequate accommodation for the storage, handling and distribution of milk and also for the washing and scalding of all utensils and appliances used in connection with a dairy, is also called for. A dairyman is required to thoroughly rinse with cold water all churns or other vessels used for the conveyance of milk to his dairy. He is forbidden to use for any other purpose a boiler or any other receptacle used for washing or scalding dairy utensils and vessels. He is not allowed to wash clothing or to dry clothing in any apartment where milk is stored or exposed for sale or where milk vessels are washed or kept.

In the course of the preparation of the Bye-laws a point of considerable interest occurred with reference to the position of Ice-cream shops. It was ascertained on enquiry among the manufacturers of ice-cream in the Burgh that this commodity was manufactured entirely from milk and sugar and that no starchy material or gelatine was employed. According to their own declaration, therefore, the dealers were manufacturing and selling a pure milk product. It was considered advisable, therefore, that a footnote should be inserted indicating that a dairy includes premises which are used for the manufacture of ice-cream in this manner. The Board, however, held it, "in view of the requirements of Section 2 of the Act, to be injudicious to appear to base the question of registration on a decision of the Local Authority" and stated that "it might be advisable simply to hold that the Bye-laws apply to premises where ice-cream was manufactured and to administer them from that point of view." The footnote was therefore omitted. It is of interest to note on this account that in the Annual Report of the Scottish Board of Health for 1926 it is stated that such premises as have been described "are probably liable to registration under the Act."

As was indicated in the Report for 1926 the Town Council arranged that the bacteriological and chemical examination of

samples of milk should be made by the present Medical Officer of Health who is also Bacteriologist to the James Mackenzie Institute for Clinical Research. During the year 19 samples were examined chemically and 8 bacteriologically. Particulars of these will be found in the Report of the Sanitary Inspector. In addition 3 samples submitted by the Veterinary Inspector from cows suspected of tuberculosis were submitted to bacteriological examination. The tubercle bacillus was not found present in these either on direct examination or on animal inoculation.

The consumption of *certified milk* rose, during the year, from practically nil to several hundred gallons per day. There were two sources of supply, namely Martin's Dairy, Church Street, and William Lohoar, West Balrymonth. The quality of the milk was in accordance with the requirements of the Milk (Special Designations) Order (Scotland), 1922. A recent sample gave the following results on testing—

Fats—3·63 per cent.

Colonies per c.c.—12,200.

Bacillus Coli—None in $\frac{1}{10}$ c.c.

An effort was made by the Health Department to secure a wide consumption of certified milk by means of informative circulars to the general practitioners and articles to the Press. These measures proved of undoubted value.

Early in the year the Town Council instructed that certified milk be supplied to all persons receiving milk under the various authorised schemes. The instruction applied, in particular, to patients in the City Fever Hospital and to mothers and babies receiving milk under the Mother and Child Welfare Scheme.

Public Health (Preservatives, etc., in Food) Regulations (Scotland).

In view of the fact that the majority of the merchants concerned had no very clear conception with regard to their relation to these Regulations, a "Notice to Merchants" was prepared and issued to all persons concerned. The Notice dealt with the duties imposed by the Regulations, specified foods and specified preservatives, prohibited colouring matters and labelling. Over 100 copies were circulated. Through the courtesy of the St. Andrews Merchants Association a meeting with the merchants of the

Burgh was held, at which further explanation was made, including a statement of the steps that might be taken by traders, in their own interests, to ascertain the amount and nature of preservatives they were adding to the specified foods.

FACTORY AND WORKSHOPS ACT.

A statement regarding conditions in the Burgh under the provisions of the Act is supplied in the Report of the Sanitary Inspector. The revision of the Register, proposed in 1926, was commenced in 1927. A considerable amount of information has been collected and a considerable number of alterations has been made. A full report will be submitted when the survey has been completed.

EDUCATIONAL.

Apart from individual instruction on the part of the medical practitioners and the Medical Officer of the Child Welfare Centre, no educational work of the nature of public lectures or demonstrations was arranged during the year.

On the other hand the James Mackenzie Institute for Clinical Research afforded unique opportunities for medical men. During the month of June a post-graduate course was held at which several lectures bearing on public health were delivered by members of the staff. Amongst these were, "*The aims and objects of the Institute*" by Dr. J. H. P. Paton (it has been explained in previous Reports that the work of the Institute is essentially of a public health nature), "*Suspected Tuberculosis in Childhood*" by Dr. A. Rowand, "*Diathesis or the influence of 'Soil' in the Production of Disease*" by Dr. A. Maitland Ramsay, the Honorary Director, "*Modern Methods of Immunisation and Treatment*" by Dr. G. Matthew Fyfe, "*Variations in Pulse and Temperature consistent with Health*" by Dr. J. H. P. Paton. During the winter session a course of lectures to medical practitioners on "*Abdominal Disorders*" was held in the Institute. The speakers were men of high eminence in the medical world. The lectures have been collected and will be published as a single volume.

Towards the end of the year the Medical Officer of Health was invited to participate in an “ *International Continuation Course on Public Health* ” held in London under the auspices of the League of Nations. Delegates from sixteen different countries of the world met and for six weeks intensive study was made of British public health organisations and the similar organisations of other nations. Valuable papers were read by eminent British and foreign authorities. These were followed by discussions. Visits were paid to many centres of public health activity. The experience was of intense interest and of high educative value.

LABORATORY SERVICES.

The following is the number of examinations made on Public Health material in the laboratories of the Clinical Institute for the year 1927 :—

| | | | | <i>Total.</i> | <i>Positive.</i> |
|---|----|----|----|---------------|------------------|
| Throat Infections— | | | | | |
| Diphtheria, | .. | .. | .. | 43 | 5 |
| Scarlet Fever, | .. | .. | .. | 10 | 8 |
| Tuberculosis— | | | | | |
| Sputum, | .. | .. | .. | 21 | 1 |
| Pus, | .. | .. | .. | 9 | — |
| Urines, | .. | .. | .. | 6 | — |
| Coli-Typhoid Infections— | | | | | |
| Agglutinations, | .. | .. | .. | 3 | 2 |
| Blood Culture, | .. | .. | .. | 2 | — |
| Faeces, | .. | .. | .. | 67 | 9 |
| Venereal Diseases— | | | | | |
| Wassermann Tests, | .. | .. | .. | 20 | 5 |
| Gonococcal Examinations, | .. | .. | .. | 12 | 3 |
| Spirochaete Examinations, | .. | .. | .. | 1 | — |
| General— | | | | | |
| Urines for Bacteriological Examination, | | | | 7 | |
| Urines for General Examination, | .. | .. | .. | 57 | |
| Throat and Nose Swabs for organisms, | | | | 45 | |
| Sputum for organisms, | .. | .. | .. | 16 | |
| Ophthalmia Neonatorum, | .. | .. | .. | 1 | |
| Cerebro-Spinal Fluid for organisms, | .. | .. | .. | 2 | |

| | |
|---|-----------------|
| Blood Cultures, | 2 |
| Faeces for Blood, | 4 |
| Malaria, | 1 |
| Hair for Ringworm, | 3 |
| Anthrax, | 2 |
| Biochemical Examinations— | |
| Blood Sugar, | 4 |
| Urinary Sugar, | 2 |
| Milk, | 28 |
| Food Samples, | 2 |
| Bacteriological Examination of Water, | 11 |
| Bacteriological Examination of Milk, | 28 |
| Animal Experiments— | |
| Guinea Pigs inoculated with Milk for tubercle bacilli, | 29 |
| Grant Total, | <hr/> 438 <hr/> |

ANNUAL REPORT OF THE VETERINARY INSPECTOR

To the Scottish Board of Health, The Provost, Magistrates and Councillors, Royal Burgh of St. Andrews.

Gentlemen,

I have the honour to submit my Annual Report on the work of the Veterinary Department of the Burgh of St. Andrews for the year ending 31st December 1927 :—

The work of the Department was largely concerned with the following :—

- (a) The Milk and Dairies (Scotland) Act, 1914.
- (b) Inspection of Meat.
- (c) The Diseases of Animals Act, 1894.
- (d) Veterinary supervision of the horses of the Cleansing Department.

(A) MILK AND DAIRIES (SCOTLAND) ACT, 1914.

The Dairy Bye-laws, framed under the Act, were approved of by the Town Council and by the Scottish Board of Health. It was found, during the year, that the dairymen were doing their best to comply with requirements. It was considered expedient to bring about a gradual fulfilment of the necessary changes rather than to make demands for immediate alterations. One noticeable feature of the new measures was a marked improvement in the cleanliness of milkers and of the process of milking. There is room for further improvement but the response to instructions has been most encouraging.

No questions of particular importance or interest arose out of the enforcement of the act nor were any administrative difficulties encountered.

Registered Dairies.

In all there were 7 registered dairies within the Burgh and 84 cows. In addition 11 dairies without the Burgh supplied milk daily to households, hotels and schools by vans or barrows.

The cattle in the 7 registered dairies of the Burgh were inspected monthly. There were no unregistered dairies. The general condition in five of the byres was of a high standard, comparing favourably with that of any other place. In two of the byres, however, means for ventilation could be improved.

Fodder and Diet.

The fodder and diet was of good quality. During the period in which they were housed the cows were well fed, there being adequate provision of turnips, linseed and cotton and other dairy cakes, as well as of hay and straw. In the summer months the cows were turned out to grass.

Health of Cows.

No cases of disease were detected among the cows and no milk was required to be disposed of. Active signs of tuberculosis were entirely absent among the cows, there being no indications of chronic cough, emaciation or hard udder. All the cows in one dairy premises were tuberculin tested, however, with the result that all reacted positively. Steps were taken to discard the reactors and young stock was acquired of which 80 per cent. passed the test. It is intended that similar steps will shortly be taken in the other dairy premises of the Burgh.

As regards the class of cows kept in the dairies of the town, it was found that Ayrshires and Crosses were in the majority.

Offences under Sections 13 and 14 of the Milk and Dairies Act, 1914.

There were no cases under these Sections during the period under review.

Samples for examination under Section 21 of the Act of 1914.

One sample only was taken. The result of examination was negative.

(B) INSPECTION OF MEAT.

Slaughter House.

During the year a new Superintendent was appointed and much needed improvements were effected. The cattle booths, sheep pens, sheds, courts, walls and pans were kept in a thoroughly clean condition. The cart for the removal of offal also received attention.

With the object of directing attention to the inadequacies of the present arrangements at the slaughter house, the Veterinary Inspector arranged an inspection of an up-to-date slaughter house in a neighbouring town by the Conveners of the Public Health and the Cleansing Department Committees, in company with the Medical Officer of Health and the Sanitary Inspector. As a result of the inspection, there is reason to believe that the Town Council will approve that alterations be made at the slaughter house on lines to be suggested in the forthcoming half-yearly Report of the Medical Officer of Health. The main requirements were indicated in the Report of the Veterinary Inspector for 1926.

Bye-laws.

The Bye-laws at present governing the slaughter house were framed in 1899 and are not now adequate to meet modern conditions. The daily period, during which slaughtering is permitted, is too lengthy. Needless attention is given to the moral behaviour of those using the premises and insufficient attention is paid to measures for securing a clean meat supply. The formation of new Bye-laws will form an essential adjunct to improved conditions at the slaughter house.

Inspection of Carcases.

Detailed records were kept of all cattle, sheep, swine and calves found to be diseased. During the year the following carcases and parts of carcases, to the weight of 2475 lbs., were condemned and destroyed as unfit for human consumption.

Condemned Carcasses, Part and Wholly Seized, 1927.

| Disease. | Cattle. | | Sheep. | | Calves. | | Total. | |
|----------------------------|----------------|-------------------|-----------------|-------------------|----------------|-------------------|----------------|-------------------|
| | Seized wholly. | Seized partially. | Seized wholly. | Seized partially. | Seized wholly. | Seized partially. | Seized wholly. | Seized partially. |
| Tuberculosis, | .. | 1 (700 lbs.) | .. | .. | .. | .. | (700 lbs.) | (365 lbs.) |
| Cirrhosis, | .. | .. | .. | (161 lbs.) | .. | .. | .. | (437 lbs.) |
| Distomatosis, | .. | .. | .. | (60 lbs.) | .. | .. | .. | (224 lbs.) |
| Dropsy, | .. | .. | (30 lbs.) | .. | .. | .. | (30 lbs.) | .. |
| Fever, | .. | .. | .. | 5 (184 lbs.) | 1 (60 lbs.) | 1 (16 lbs.) | (60 lbs.) | (200 lbs.) |
| Actinomycosis, | .. | 5 (48 lbs.) | .. | .. | .. | .. | .. | (48 lbs.) |
| Emaciation, | .. | .. | 7 (273 lbs.) | .. | .. | .. | (273 lbs.) | .. |
| Infiltration and Bruising, | .. | .. | .. | 6 (98 lbs.) | .. | .. | .. | (98 lbs.) |
| Not bled, | .. | .. | 1 (40 lbs.) | .. | .. | .. | (40 lbs.) | .. |
| Total, | .. | (700 lbs.) | (343 lbs.) | (503 lbs.) | (60 lbs.) | (16 lbs.) | (1103 lbs.) | (1372 lbs.) |

The following table shows the number of animals killed during the year and differentiates between the kind of animal killed and the number slaughtered each month :—

Animals Slaughtered, 1927.

| Month. | Oxen. | Cows. | Calves. | Sheep. | Pigs. | Total. |
|-------------|-------|-------|---------|--------|-------|--------|
| January .. | 46 | 2 | 3 | 116 | 12 | 179 |
| February .. | 44 | 3 | 5 | 105 | 17 | 174 |
| March .. | 39 | 2 | 3 | 109 | 20 | 173 |
| April .. | 49 | .. | 6 | 153 | 15 | 223 |
| May .. | 52 | .. | 3 | 133 | 9 | 197 |
| June .. | 53 | 1 | 1 | 174 | 10 | 239 |
| July .. | 62 | 3 | 11 | 244 | 6 | 326 |
| August .. | 68 | 2 | 11 | 279 | 7 | 367 |
| September | 57 | 3 | 4 | 244 | 9 | 317 |
| October .. | 54 | 2 | 6 | 206 | 18 | 286 |
| November .. | 53 | 4 | 8 | 196 | 29 | 290 |
| December .. | 45 | 2 | 4 | 150 | 28 | 229 |
| Total .. | 622 | 24 | 65 | 2109 | 180 | 3000 |

(C) DISEASES OF ANIMALS ACT, 1894.

No occasion for action under the above Act arose during the year.

(D) VETERINARY INSPECTION OF TOWN STABLES.

All the horses belonging to the Burgh were periodically examined and found to be in good condition. The stable premises were kept in a moderately clean condition. There is need for white washing and for the removal of dust from beams and from structural projections.

I have the honour to be,

Gentlemen,

Your obedient Servant,

P. YOUNG, M.R.C.V.S.,

Veterinary Inspector.

REPORT BY SANITARY INSPECTOR.

To the Scottish Board of Health, The Provost, Magistrates and Councillors of the Burgh of St. Andrews.

Gentlemen,

ANNUAL REPORT, 1927.

In accordance with Section 15 of the Public Health (Scotland) Act, 1897, I have the honour to present my Seventh Annual Report on the work of the Sanitary Department within the Burgh of St. Andrews, for the year ending 31st December 1927.

In the Public Health Circular No. 6, 1927, issued by the Scottish Board of Health on the 20th December 1927, Sanitary Inspectors are called upon to include in their Annual Reports the following :

(a) A general account of the sanitary state of the Burgh with regard to its water supply, drainage (including sewage disposal) and scavenging.

(b) An account of his general inspections, and of any special inspections or enquiries, including the supervision of slaughter-houses and other offensive trades, and the sanitary condition of schools and of factories and workshops.

(c) An account of the condition of the common lodging-houses.

(d) An account of the condition of the burial grounds.

(e) An account of his proceedings under the Burgh Police Acts.

(f) Observations on food inspection, unsound food, and particulars of the sanitary condition of premises where foods are manufactured, prepared, stored, or exposed for sale.

(g) A Report on the work done by the Local Authority under the Sale of Food and Drugs Acts, The Public Health (Preservatives etc., in Food) Regulations, and the Orders relating to Milk.

(h) (Where the Sanitary Inspector has been appointed to carry out the sanitary inspection of registered cowsheds and exempted premises)—

(1) A statement of the conditions found, and of any particular points that are of outstanding interest or that require remedy ;

(2) Particulars of the extent to which (a) the cowsheds comply with the structural and sanitary requirements of the Dairy

Byelaws ; (b) dairymen and their employees conform with the requirements of the Bye-laws relating to methods of milking, handling, and generally the production of clean milk ;

- (3) Notes of improvements obtained in the condition of cowsheds and milk stores, including observations regarding any complaints received or dealt with ;
- (4) (a) The number of registered cowsheds in the district, and the approximate number of cows therein ; (b) the number of cowsheds exempted from registration (if available) and the approximate number of cows in such cowsheds, with observations on this class of cowshed ;
- (5) A statement of the extent to which Articles 5 to 16 of the Milk and Dairies (Scotland) Order, 1925, are being complied with ;
- (6) A comparative statement of the results of inspection of dairies.

A—WATER SUPPLY.

The Burgh of St. Andrews, as stated in previous Reports, is supplied with water for domestic purposes from reservoirs situated outwith the Burgh boundary. There are three reservoirs from which the supply is obtained,; Cameron containing 222,000,000 gallons ; Lambieletham containing 13,000,000 gallons ; and Cairnsmill containing 600,000 gallons. These three reservoirs are situated within a radius of 5 miles from the town. The nearest one being Cairnsmill which lies one and a half miles away, the next Lambieletham, being at a distance of three miles away, while Cameron, the largest of the reservoirs, and indeed the one from which the main supply is obtained, being five miles from the Burgh. The cubic capacity of the reservoirs is 37,680,000 cubic feet (Cameron having a cubic capacity of 35,000,000 cubic feet, Lambieletham having a capacity of 2,080,000 cubic feet, and Cairnsmill having a capacity of 600,000 cubic feet).

Precipitation of the inorganic matter in suspension takes place in the reservoirs and before the water is led to the filters. Filters are provided for the removal of the organic matter in suspension.

Immediately after filtration the water flows to the still well, where it remains for a period before entering the mains for distribution throughout the Burgh. Owing to the growth of the Burgh the area of the filters was found to be inadequate to cope with the supply, and arrangements were made for the construction of four additional filters. Each new filter has an area of 1000 square feet, so that an addition of the filtering area equivalent to 4000 square feet has been provided. The filtering area to date is now as follows :—

| | | <i>Sq. feet.</i> |
|--|----|------------------|
| Area of High Filters, 4 at 980 sq. feet, | .. | 3,920 |
| Area of Low Filters, 4 at 950 sq. feet, | .. | 3,760 |
| Area of New Filters, 4 at 1000 sq. feet, | .. | 4,000 |
| Total filtering area, | | 11,680 |

The construction of the new filters was completed about the end of November 1927.

In addition to this work the undernoted extensions to the mains throughout the Burgh were made during the year ending 31st December 1927.

Middlesshade Road.—200 lineal yards of new 4 inch water main.

Warrack Street and Kinkell Terrace.—242 lineal yards of new 3 inch water main.

On the following pages are abstracts of the water filtered during the past eighteen years (1910-1927) together with an abstract of the water filtered during each month of 1927. From the later abstract it will be noted that the average daily consumpt per head of population was 63 gallons.

ST. ANDREWS WATER.
Abstract of Consumpt of Water Filtered at Pipeland Filters.
Years 1910-1927.

| Year. | Total Consumpt. | Average per day. | Average per month. | Average per head. | Rainfall Cameron. Pipeland. | Rain Days. |
|-------|-----------------|---------------------|-----------------------|----------------------|--------------------------------|---------------|
| 1910, | 147,200,900 | 403,323·11 | 12,266,741 | 50·41 | .. 27·23 | 168 |
| 1911, | 121,393,300 | 332,812·83 | 10,116,025 | 41·59 | .. 18·95 | 170 |
| 1912, | 136,199,500 | 372,076·72 | 11,349,958 | 46·50 | .. 27·93 | 180 |
| 1913, | 141,001,700 | 386,281·75 | 11,750,141 | 48·28 | .. 24·38 | 172 |
| 1914, | 139,544,700 | 382,314·24 | 11,328,725 | 47·79 | .. 21·10 | 180 |
| 1915, | 132,682,500 | 418,308·22 | 12,723,541 | 52·28 | .. 32·68 | 185 |
| 1916, | 157,959,700 | 432,766·30 | 13,163,308 | 54·09 | 43·75 38·85 | 204 |
| 1917, | 155,841,200 | 426,962·16 | 12,986,736 | 53·37 | 24·51 20·94 | 166 |
| 1918, | 156,302,200 | 428,252·60 | 13,026,016 | 53·53 | 26·81 24·92 | 177 |
| 1919, | 152,451,400 | 417,675·06 | 12,704,283 | 32·22 | 30·16 26·52 | 172 |
| 1920, | 161,043,600 | 440,009·83 | 13,420,300 | 55·00 | 30·02 26·91 | 185 |
| 1921, | 157,227,000 | 429,581·96 | 13,100,200 | 47·73 | 24·42 22·00 | 156 |
| 1922, | 161,520,900 | 441,040·71 | 13,460,075 | 47·42 | 24·40 27·23 | 181 |
| 1923, | 181,272,700 | 496,637·53 | 15,106,058 | 52·83 | 28·96 27·23 | 208 |
| 1924, | 178,209,800 | 486,912·02 | 14,850,816 | 51·25 | 34·10 31·85 | 185 |
| 1925, | 216,163,400 | 592,228·49 | 18,013,616 | 62·33 | 30·34 27·05 | 154 |
| 1926, | 253,879,300 | 695,556·98 | 21,156,608 | 69·55 | 37·13 34·76 | 190 |
| 1927, | 229,988,500 | 630,106·43 | 19,165,700 | 63·00 | 33·58 31·61 | 188 |

ST. ANDREWS WATER.
Abstract of Monthly Consumpt of Water Filtered at Pipeland 1927.

| Date. | Upper Filters | Lower Filters. | Grange. | Total Consumpt Gallons. | Rainfall Pipeland. Cameron inches. | Average daily Consumpt. | Galls. per head 10,000. |
|------------------------------|---------------|----------------|-----------|----------------------------|--|-------------------------------|-------------------------------|
| January, | 10,538,900 | 8,907,800 | 737,400 | 20,184,100 | 2.12 | 651100.00 | 65.1 |
| February, | 8,594,400 | 7,408,100 | 853,500 | 16,856,000 | 1.11 | 602000.00 | 60.2 |
| March, | 9,004,800 | 8,708,900 | 865,700 | 18,579,400 | 2.17 | 593335.48 | 59.9 |
| April | 8,713,000 | 8,203,300 | 967,400 | 17,883,700 | 1.08 | 596123.33 | 59.6 |
| May, | 8,962,300 | 8,493,100 | 893,200 | 18,348,600 | 2.25 | 591892.90 | 59.1 |
| June, | 9,387,600 | 9,114,300 | 714,100 | 19,216,000 | 1.76 | 640533.33 | 64.0 |
| July, | 10,074,500 | 10,023,300 | 877,300 | 20,975,100 | 2.84 | 676616.12 | 67.6 |
| August, | 11,223,700 | 9,931,200 | 780,000 | 21,934,900 | 4.98 | 707577.41 | 70.7 |
| September, | 9,478,300 | 9,412,700 | 616,700 | 19,507,700 | 4.78 | 650256.66 | 65.0 |
| October, | 9,584,100 | 8,686,200 | 712,900 | 18,983,300 | 4.77 | 592364.51 | 59.2 |
| November, | 8,812,500 | 9,114,200 | 758,500 | 18,685,200 | 1.88 | 602840.00 | 60.2 |
| December, | 9,159,800 | 8,911,900 | 762,900 | 18,834,600 | 1.93 | 587567.74 | 58.7 |
| | 113,533,900 | 106,915,000 | 9,539,600 | 229,988,500 | 31.61 | 630106.43 | 63.0 |
| Average consumpt per day, .. | | | | 229,988,500 | = 630,106.43 gallons. | | |
| | | | | 365 | | | |
| " " per month, .. | | | | 229,988,500 | = 19,165.700 " | | |
| | | | | 12 | | | |
| " " per head, .. | | | | 229,988,500 | = 63.0 " | | |
| | | | | 365 x 10,000 | | | |

A—DRAINAGE.

The system of sewerage adopted in St. Andrews is that known as the "combined system" through the pipes of which both storm water and house refuse are removed. It is essential in an efficient sewerage system that the gradients of the sewers and the dimensions of the pipes are such as will permit of a quick removal of all liquid and waste. The disposal of the sewage is effected by its direct discharge into the sea. The outfall sewers, of which there are two, are situated to the North and East of the town. The former outfall sewer measures 20 inch in diameter and the latter 15 inch. in diameter.

The drainage of the lands at Woodburn, to which reference was made in my previous report has not yet been finally disposed of.

The main sewer in the grounds of Abbey Park which had during the previous year collapsed had not been repaired by the end of 1927. The delay being largely due to the records and plans having been destroyed by fire in the Engineer's Office. Arrangements were, however, made for this work being undertaken early in 1928, and reference to it will be made in that year's report.

During the year the following extensions to the sewers were made :—

Strathkinness Road—250 yards of 9 inch sewer.

Middleshade Road—146 yards of 8 inch sewer.

Warrack Street and Kinkell Terrace.—205 yards of 9 inch sewer.

Lade Braes, Loudon's Close to Melbourne Place—124 yards of 6 inch sewer.

Lade Braes, Melbourne Place, westwards—54 yards of 6 inch sewer.

A—SCAVENGING.

The arrangements for the cleansing and scavenging in the Burgh are similar to that reported in the previous Annual Report. It is a system which has worked satisfactorily throughout the year. This system is briefly as follows :—

Collection of Refuse.—The refuse of the Burgh is collected daily between the hours of 7 a.m. and noon. On this work five horses—four of which are owned by the Council and one is taken on hire—are engaged. Disposal of the refuse is effected by tipp-

ing. There are two tipping grounds, one of which is used during the winter months and the other during the summer months. The summer tipping ground is Newmill Quarry, and the winter tipping ground is the bents at the West Sands. The vermin at these grounds are kept down by periodical visits of a rat-catcher who carefully lays down poisoned baits. During the year an experiment was carried out by Mr. Munro of the Board of Agriculture, in the use of Cyanogas for exterminating rats in infested areas. The experiment was made at Newmill Quarry tipping grounds, where evidence of runs, etc., appeared to indicate that this place was infested. The Cyanogas was pumped into holes in the bank of both sides of the quarry, and also into the face of the tip, and during the operations, which continued for about two hours, only one rat was seen. I think this a very good indication of the work done by the rat catcher during his occasional visits to this place, indicating as it does that this tipping ground is practically free of these vermin.

In addition to the carters employed in the work of refuse collection scavengers are employed, whose duties in addition to assisting with the work of collection include the cleansing of streets, water channels, gutters and gullies.

Waste paper is collected twice weekly from shops and houses.

A—NUISANCES.

Two nuisances of a somewhat unusual nature were investigated and dealt with during the year. One consisted of complaints from the neighbourhood of the Electric Power Station against the noise of a new engine that had been fitted up at these works. This complaint was somewhat difficult to deal with and no formal intimation of the existence of a nuisance was served on the Electric Company as it was considered desirable to deal with the complaint by letter. The Company made every effort to remove the grounds for these complaints, but naturally their investigations extended over a somewhat lengthy period. The chief source of the noise was caused by the exhaust, and several experiments were tried to silence this before the results aimed at were achieved. The following is a copy of the last joint report

dealing with this matter which was submitted to the Public Health Committee of the Town Council by the Medical Officer of Health and myself. The report bears the date 22/2/28.

Noise at Electric Station.

“We visited the Electric Station to-day and inspected the work recently done by the Company with a view to further reducing the noise from the new engine, and now beg to report as follows :—

The noise is, in our opinion, greatly reduced, even as compared with the reduced volume of sound previously reported on. We heard it first in the vicinity of the slaughter-house, the wind being from the west. Had, however, we not purposely listened for it we question very much if we should have heard it at that part. After surveying the alterations carried out we proceeded to the west end of James Street for observation purposes, and, so that the maximum volume of sound would be obtained, instructed that the door at the west gable of the Electric Station be opened. The noise from the engine heard at this particular place, which is comparatively close to the works, was such that it was entirely drowned by the rumbling noise of motor and horse drawn vehicles which so happened to pass. In addition to his enquiry was made of the occupier of a house in Wallace Street, who stated that the noise was, in her opinion, considerably less than before. The noise was not heard on Maggie Murray's Bridge, not from such positions as the 14th Green of the Old Course, from which it used to be distinctly audible.”

Since then no further complaints have been received.

The other complaint to which special reference might be made is that from the occupier of 9 Dempster Terrace. This complaint dealt with a discharge from a drain into the Kinness Burn in front of his house, rat holes in the garden and noise of rats working behind partitions, etc., in the house. Investigations were made into these matters and the following report, which was sent to the Town Council on 12th December 1927, will show what was done in regard to this complaint.

“During the month of September last a complaint was received by Dr. Fyfe from Dr. Robertson, the proprietor of 9 Dempster

Terrace, regarding a drain discharging an opaque coloured effluent into the Kinness Burn at a point in front of his house, that rats appeared to make use of this drain, evidence of this being visible in the lawn where two rat holes existed, and that these vermin had access to the dwelling as they were heard quite distinctly moving about in the inside. Dr. Fyfe called on me regarding the complaint after which I visited the site.

The drain discharging the opaque coloured effluent into Kinness Burn appeared to pass directly underneath the drawing room and kitchen premises of Dr. Robertson's house. The discharge varied in volume but had continued for, I am led to understand, a number of years. He, Dr. Robertson, had heard that this discharge was from some old wash-house in St. Andrews, and that it could not be traced to its source. I interviewed Mr. Watson, Burgh Surveyor, on the matter, who was of the same opinion as Dr. Robertson, namely, that the discharge was from an old wash-house.

It appeared to me unsatisfactory that an active drain should pass directly underneath a dwelling-house, and discharge into the burn, even allowing its source to be an old wash-house. As the main drainage of Dempster Terrace lies to the north of the Terrace, a way out of the difficulty presented itself by locating the old drain on the north side of the house, and thereafter making a connection from it to the house drains or sewer at that part. Dr. Robertson's gardener was employed in making the necessary excavations and eventually the drain was found at a point a few yards to the north of the house inside his back garden. It is an old stone culvert of about 15 inches in depth and 12 inches to 15 inches in width and provided with stone covers about 6 inches thick. A curious and at the same time a significant point presented itself in the culvert where excavated. It has already been reported that the discharge at the outlet of this drain (Kinness Burn) was opaque in colour and that it was understood to be coming from an old wash-house, one therefore expected to find the flow in the culvert, where excavated, of a corresponding colour, but it was not so, the flow here was clear and transparent. This indicated that between the outlet and the culvert where exposed in the back garden of Dr. Robertson's house an

opaque coloured liquid had access to the stone drain. Between these two points existed a 15 inch sewer. By an application of coloured water to the culvert where excavated, it was ascertained beyond doubt that the stone drain had connection with the sewer. It appeared therefore that the sewer was defective and acting upon this I reported the matter to Mr. Watson who arranged to send men down to strip the sewer at its point of intersection with the stone drain. This done, the sewer was found to be badly fractured and that the sewage had been flowing into the stone drain passing underneath Dr. Robertson's house and entering direct to Kinness Burn. How long this had gone on it is difficult to say, but it seems that these conditions have been in existence for a number of years. Arrangements were immediately made for the repairing of the sewer, the work being undertaken by Mr. Watson. While executing these repairs further excavations were rendered necessary. These additional excavations revealed that the stone culvert and the sewer were connected with a 6 inch fireclay pipe. The connection of this fireclay pipe with the sewer was also bad, and it was substituted by a length of 6 inch c.i. pipe. A brick partition was built into the culvert at the other extremity of the c.i. pipe, and the whole pipe and the sewer for three lengths of pipe encased in concrete. By this means all the flow in the stone drain entered the sewer and none would thereafter pass into that length of the stone drain which passed underneath Dr. Robertson's house. Between the sewer and the back wall of the house the stone drain was filled in and an eye was built close to the house, and provided with a perforated grating for aerating the culvert underneath the dwelling. At the foot of the slope in the front garden the culvert was also disconnected at that point from its remaining length to the burn. A second eye was built here and provided with a perforated grating for access of fresh air to the culvert. The outlet of the stone drain from the burn was lifted for a distance of about three yards, so that no vermin can have access from the burn to the culvert.

An examination of the prevailing conditions underneath the house was decided on, and the flooring in the kitchen was lifted for this purpose. The culvert was found to be about 9 feet below the floor level at this point, and from its invert to the underside

of its stone covers it was found to be about 2 feet 9 inches in depth. A layer of soil of a clay nature and of 3 feet 6 inches thick was superimposed on the stone drain. The drain underneath the house was flushed with a strong solution of Izal Disinfectant, and taking into consideration the following points (a) that the sewage and other effluent would no longer flow into the stone drain, (b) that provision for ventilating it had been made, (c) that rats could no longer gain access to it from the burn, and that its attraction for these vermin being the sewer no longer existed, (d) that the sewer had been repaired at the point of intersection of it with the stone drain, and (e) the depth of the culvert underneath the house, the soil above it and the floor level; it did not appear any purpose could be served by further excavations underneath the house, and, therefore, the excavations underneath the kitchen floor were restored and the flooring relaid.

Rat runs were plainly seen in the walls of the excavations which had been made underneath the kitchen floor, and these doubtless exist in other places underneath the house as well, but, I am of the opinion, that the vermin will very quickly cease to give cause for any anxiety in view of the fact that their source of food supply no longer exists. Such source being doubtless the defective sewer where these vermin could obtain pickings.

On the 19th of January 1928 an inquiry was held in St. Andrews by Dr. Dittmar and Mr. Joseph Paterson of the Scottish Board of Health, and the following is an extract from the Minutes of the Town Council relative thereto.

The Members of the Sub-Committee were present at the inquiry to-day by Dr. Dittmar, Scottish Board of Health, Edinburgh, and Mr. Joseph Paterson, Engineering Inspector of the Scottish Board of Health, in regard to the complaints by the Rev. Dr. Robertson regarding the alleged insanitary condition of the house 9 Dempster Terrace, and also as to the alleged insanitary condition of Dempster Terrace and neighbourhood.

Dr. Dittmar and Mr. Paterson in the course of their inquiry made an inspection of the house 9 Dempster Terrace, and of the surrounding neighbourhood and were given full explanations by the Medical Officer of Health, Burgh Engineer and Sanitary

Inspector as to the work executed on behalf of the Town Council at 9 Dempster Terrace as soon as the matters complained of came to the notice of the Sanitary Officials. The Rev. Dr. Robertson's Architect made suggestions on behalf of his client as to further work which might now, in his opinion, be carried out, and the Agent for Dr. Robertson was also heard.

The Town Clerk on behalf of the Town Council maintained that the Town Council had already done everything which they could reasonably be expected to do. Dr. Dittmar and Mr. Paterson stated that they would report to the Scottish Board of Health in due course.

In addition to the foregoing nuisances, others dealt with during the year were :—

The occupancy of a wooden shed in the garden ground of a dwelling house by the tenants who had let their house to summer visitors. As the shed had neither water supply nor sanitary accommodation the Public Health Committee decided that the shed could not be used for habitation purposes.

The fouling of street gullies, choked grease boxes and smoke nuisance from chimney of washing house also received attention.

With reference to the Board's request to Sanitary Inspectors to deal with the question of water supply and sanitary accommodation in the houses in the Burgh, I have to state that in St. Andrews there are :—

114 water closets used by two tenants.

48 water closets used by three tenants.

31 water closets used by four tenants.

6 water closets used by five tenants, and

2 water closets used by six tenants.

There are 135 houses without water supply and sink inside the house. The majority of the tenants in such houses, obtain a supply of water from taps outside the dwelling, from taps in common staircases, and in some cases from other houses. There are 7 dry closets in the Burgh. Two of these being at cottar houses on the outskirts of the Burgh, and the remainder at a factory which is situated on ground below the sewer levels. There are no privy-middens nor ashpits in the Burgh.

B—GENERAL INSPECTION.

With reference to last year's report dealing with the pitching of tents on the lands of St. Nicholas Farm adjacent to the sands it is gratifying to report that no tents were pitched on these lands or on the sands during the year, and in consequence of this no complaint regarding the fouling of the sands in this vicinity was made.

B—SLAUGHTER HOUSE.

For some time past the question of alterations and adjustments in the staff and to the buildings of the Slaughter House has been in the minds of the Public Health Officials, and towards the achieving of these aims definite steps were taken during the past year.

An alteration was made in the staff in August last, when a new superintendent was engaged in place of the superintendent who formerly excented the duties, but who had become quite unfit for them on account of old age. This change has had a marked improvement upon the buildings generally, and the accuracy of record keeping. The premises are now scrupulously clean, and the records are kept in better order and up to date.

Conditions although considerably improved as they now are are not yet satisfactory and the present arrangement of the buildings can never fulfil modern requirements. Extensive alterations are therefore absolutely necessary.

Visits were made by the Officials to a modern slaughter house in a neighbouring town, and general particulars and useful information gathered. Following on these visits a firm, who specialize in abattoir construction and fitments was approached who subsequently sent their representative through to view our existing slaughter house. Ultimately schemes were laid before us for bringing our slaughter house into line with present day needs and these are now being examined.

No complaints were received during the year regarding the slaughter house or the offensive trades connected therewith. The offensive trades are (1) Tripe boiling and (2) Hide and Tallow Factoring. The former is conducted in an outhouse within the slaughter house premises, and the latter consists of storing the

hides of animals killed in the slaughter house until such time as they are removed to Dundee. The hides are removed at least twice each week. Improvements in the premises of the offensive trades will be embodied in the scheme of improvement for the slaughter house in general.

B—INFECTIOUS DISEASE.

Throughout the year 84 cases of Infectious Disease (excluding tuberculosis) were notified in the Burgh, being equivalent to 0·85 per cent. of the population, which is estimated at 9881.

Of these cases of infection Diphtheria accounted for 7, Erysipelas for 1, Scarlet Fever for 10, Ophthalmia Neonatorum for 1, Malaria for 1, Dysentery for 33, Acute Primary Pneumonia for 18, Acute Influenza Pneumonia for 2, Chicken Pox for 10 and Puerperal Fever for 1.

The outbreak of dysentery, which accounted for the greatest number of infectious cases during the year occurred during the months of October and November. The first case was reported on the 21st October (and by the end of that month 7 cases were notified) and the outbreak continued to spread until the 27th of November, when the last case was notified.

From information gathered at each house affected by this outbreak a common factor appeared in a milk supply. And, following this clue, it was discovered that one of the dairymaids had been suffering from attacks of diarrhoea a few weeks prior to the outbreak of dysentery in St. Andrews. This milk supply, which was given gratis to the infants in the infants schools, was stopped, and thereafter, whether due entirely to this measure or not, the outbreak ended. Evidence that this milk supply had caused the outbreak was not definitely established, but from the foregoing facts, it would appear that it did have a direct bearing upon the epidemic, and, that the action taken, regarding the supply, was justified.

Although the number of cases of Scarlet Fever and Diphtheria were in excess of those notified in the previous year, neither of these diseases were at any time prevalent in the Burgh during 1927. Scarlet Fever was first reported in January when 2 cases occurred, in February there were 3 cases, and no other cases were

reported until the month of June, when 1 case was notified. In August 1 case occurred and in September another case was notified, and the remaining two cases were reported during December. It will be seen therefore that during 1927 Scarlet Fever occurring in the Burgh was in the nature of isolated cases breaking out now and again, and that the infection was never at any period during the year prevalent.

Diphtheria did not occur in the Burgh in 1927 until the month of August when 1 case was notified. This was followed by an additional case in September, and no other cases were reported until the month of November when 3 cases occurred, followed by 2 cases during December.

St. Andrews may therefore be said to have been comparatively free of both Scarlet Fever and Diphtheria during the past year.

The following table gives the total number of cases of Scarlet Fever and Diphtheria occurring in the Burgh during the years 1921-27 inclusive :—

| Disease | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 |
|-------------------|------|------|------|------|------|------|------|
| Scarlet Fever, .. | 0 | 7 | 15 | 90 | 14 | 4 | 10 |
| Diphtheria, .. | 11 | 2 | 3 | 5 | 21 | 5 | 7 |

Hospital treatment was given to the following cases detailed particulars of which can be obtained from the Report by the Medical Officer of Health :—

Scarlet Fever, 10 cases treated in Hospital.

Puerperal Fever, 1 case treated in Hospital.

Diphtheria, 6 cases treated in Hospital.

Dysentery, 4 cases treated in Hospital.

Following upon the removal of cases to Hospital, disinfection of the infected premises is undertaken, the methods adopted being similar to that described in last year's report. Bedding and wearing apparel are usually, when required, removed for disinfection by steam. The plant for steam disinfecting articles is situated in one of the outhouses adjacent to the City Hospital.

B—SCHOOLS.

The cleanliness of the Schools within the Burgh is of a high standard and the various conveniences are kept scrupulously clean.

B—FACTORIES AND WORKSHOPS.

Throughout the year 102 visits were made to the Faetories and Workshops in the Burgh when investigations into the cleanliness of the premises and the sanitary arrangements were made. Conditions on the whole were satisfactory and no serious contra-ventions were encountered.

Matters which called for immediate attention were nine cases in which the premises were not adequately clean and ten cases where the water closets were found to be in a dirty condition. The attention of the various parties concerned in these matters was directed to the conditions and the grounds for complaint thereafter removed.

The overhauling of the Register of Faetories and Workshops referred to in last year's report is now well in hand, and a comprehensive survey of all Workshops and Faetories within the Burgh is being undertaken, and special enquiries made in order that the revised Register may be as accurate as possible.

C—COMMON LODGING HOUSES.

There are no Common Lodging Houses within the Burgh.

D—BURIAL GROUNDS.

Within the Burgh are situated two burial grounds, and one situated outwith the Burgh but belonging to it.

As the layers in the burial grounds within the Burgh are now disposed of no interments take place there unless by those who possess grounds in these places.

In each burial ground in the Burgh one man is engaged in keeping the grounds and paths in proper order and repair, and during the summer months, or at other periods when necessary other labour is employed.

Both places are kept in a satisfactory condition and no complaints have been received regarding them during the past year.

E.—PROCEEDINGS UNDER THE BURGH POLICE ACT.

Towards the close of the year the Public Health Officials were confronted with a projected scheme of alterations to property in the Burgh which, though providing for a few single roomed

dwellings, did not include the provision of adequate sanitary arrangements, and was therefore contrary to Section 246 of the Burgh Police (Scotland) Act, 1892.

It was a problem which presented, therefore, difficulties of solution, difficulties, too, which were augmented by the knowledge that insistence for adequate sanitary accommodation would, in all probability, prevent the alterations being carried out, and the scheme, in consideration of the scarcity of houses within the Burgh had much to commend it.

A decision was however reached which held that the conditions regarding Section 246 of the Burgh Police (Scotland) Act, 1892, should be called for. Unfortunately this step put an end to the proposed alterations, but we think that the only logical decision was arrived at. We hold that although housing conditions which from the point of view of increasing the number available would have benefited by these alterations, to alleviate this shortage of houses by encouraging the renovation or alteration of property into small dwellings which did not fulfil modern requirements regarding sanitary arrangements, could not be worthy of recommendation.

F.—OBSERVATIONS ON FOOD INSPECTION, Etc.

Throughout the year twenty-seven samples of sweet milk were drawn for analysis. Of this number nineteen samples were transmitted to the Medical Officer of Health and eight samples were forwarded to the City Analyst, Dundee.

The following are the particulars of the reports received in each individual case.

| <i>No.</i> | <i>Total Solids.</i> | <i>Solids not Fat.</i> | <i>Fat.</i> | <i>Analysed by.</i> |
|------------|----------------------|------------------------|-------------|---------------------|
| 1. | 11.9°/o | 8.7°/o | 3.2°/o | M.O.H. |
| 2. | 12.2°/o | 8.8°/o | 3.4°/o | M.O.H. |
| 3. | 11.65°/o | 8.55°/o | 3.1°/o | M.O.H. |
| 4. | 11.84°/o | 8.62°/o | 3.22°/o | City Analyst. |
| 5. | 12.02°/o | 8.74°/o | 3.28°/o | City Analyst. |
| 6. | 11.68°/o | 8.67°/o | 3.01°/o | City Analyst. |
| 7. | 12.02°/o | 8.82°/o | 3.20°/o | City Analyst. |
| 8. | 12.39°/o | 8.92°/o | 3.47°/o | City Analyst. |
| 9. | 13.28°/o | 9.18°/o | 4.10°/o | City Analyst. |
| 10. | 12.96°/o | 9.36°/o | 3.6°/o | M.O.H. |
| 11. | 13.48°/o | 9.68°/o | 3.8°/o | M.O.H. |
| 12. | 12.8°/o | 9.33°/o | 3.47°/o | M.O.H. |
| 13. | 12.48°/o | 9.28°/o | 3.2°/o | M.O.H. |

| No. | Total Solids. | Solids not Fat. | Fat. | Analysed by. |
|-----|------------------|--------------------|---------|---------------|
| 14. | 12.57°/. | 9.21°/. | 3.36°/. | M.O.H. |
| 15. | 12.74°/. | 9.34°/. | 3.4°/. | M.O.H. |
| 16. | 12.3°/. | 9.0°/. | 3.3°/. | M.O.H. |
| 17. | 12.13°/. | 9.03°/. | 3.1°/. | M.O.H. |
| 18. | 11.9°/. | 8.8°/. | 3.1°/. | M.O.H. |
| 19. | 12.7°/. | 9.3°/. | 3.4°/. | M.O.H. |
| 20. | 12.49°/. | 9.04°/. | 3.45°/. | M.O.H. |
| 21. | 12.79°/. | 8.97°/. | 3.82°/. | M.O.H. |
| 22. | 12.25°/. | 8.95°/. | 3.3°/. | M.O.H. |
| 23. | 12.61°/. | 9.11°/. | 3.5°/. | M.O.H. |
| 24. | 12.32°/. | 8.89°/. | 3.43°/. | M.O.H. |
| 25. | 12.78°/. | 9.18°/. | 3.60°/. | M.O.H. |
| 26. | 10.72°/. | 8.02°/. | 2.70°/. | City Analyst. |
| 27. | 11.94°/. | 9.12°/. | 2.82°/. | City Analyst. |

The average percentage of Non-Fatty Solids was 8.98 and the average per centage of Fat was 3.35, being equivalent to 0.48 per cent. in the case of Non-Fatty Solids and 0.35 per cent. in the case of Fat above the required standards.

The last two samples (Nos. 26 and 27) were certified not genuine by the City Analyst. The former sample being 0.48 per cent. below the standard for Non-Fatty Solids and 0.30 below the standard for Milk Fat, while the latter sample was 0.18 per cent. below the standard for Milk Fat.

The Analyst's Reports on these samples were submitted to a Meeting of the Public Health Committee held on the 21st November 1927, when it was agreed that letters of warning be sent to the parties concerned by the Town Clerk and pointing out that in the event of any similar occurrence the Committee would have no alternative but to prosecute.

In the Report by the Veterinary Inspector will be found detailed particulars of the unsound meat dealt with at the Slaughter-house.

G—SALE OF FOOD AND DRUGS ACTS, Etc.

Under the foregoing section of this report has been set forth particulars regarding samples submitted for analysis throughout the past year, together with the results of the analysis and the actions taken regarding thereto, it is not therefore proposed to deal with these under the present section.

Circulars setting forth the salient features of the Public Health (Preservatives, etc., in Food) Regulations were prepared by the

Public Health Officials and issued to all parties within the Burgh who are affected by these in order that they may thoroughly understand what is required by the Regulations.

H—COWSHEDS, Etc.

The matters which call for attention in a number of the byres within the Burgh are of a minor structural alteration, *i.e.*, walls to be covered with a smooth impervious material to a height of six feet ; wall heads to be brought up flush with the roof in the interior, in order to prevent the lodgement of dust on the top of the wall.

Since the operation of the Milk and Dairies (Scotland) Act, 1914, it is worthy of note that the two byres so situated within the Burgh as to render them unsuitable for complying with modern requirements are now no longer in existence. In one of these cases the property which recently came into the market was purchased by the Town Council and will be used for other purposes in future, and in the other case, the byre is no longer used, although the dairy is still continued. As the primary objection was the byre, its closing down has added considerably to the improvements which have already taken place under the Act. Much yet remains to be done, but it is anticipated that by calling for the necessary improvements gradually the desired results shall ultimately be reached.

A matter which is having attention this year (1928) is the facilities for boiling and scalding the various utensils employed in the trade and it is hoped that these will soon show a marked improvement. It is readily seen that this work will play a very considerable part in the production of a clean milk supply, as it is an easy matter for milk to be contaminated by receptacles which have not been thoroughly cleansed with boiling water or steam. To encourage competition amongst local dairymen in producing a clean milk supply, Provost Boase is this year (1928) presenting two cups to be competed for. One of the Cups is for dairy farms within the Burgh and the other Cup is for Dairies in the Burgh. As it is proposed to publish the result of the competition in the local press there is go doubt that a great impetus

will be given to obtaining within the Burgh a Clean Milk Supply by the generous gift of these Cups. The Cups will bear the following inscriptions :—

1. Clean Milk Competition—Dairy Farms. Presented by Provost W. N. Boase, St. Andrews, 1928.

2. Clean Milk Competition—Dairies. Presented by Provost W. N. Boase, St. Andrews, 1928.

The winners of these cups (which will be held by them for one year) shall have their names, and the year inscribed upon them. When healthy competition is aroused in the trade and each member thereof strives to better their neighbours in the production of clean milk, it will at once be evident that improvements will more readily be brought about towards this end than would result from the mere insistence of certain requirements. Fuller particulars of this scheme will be a subject for inclusion in next year's report, but I think it fitting that reference should be made here.

The following are the particulars of those who are registered in the Burgh :—

Occupiers of Dairies and Byres within the Burgh, 5.

Occupiers of Dairies only within the Burgh, 4.

Occupier of shop from whom sterilized milk may be obtained, 1.

Occupiers of premises outwith the Burgh, but who retail milk within the Burgh, by horse or motor vehicle, 7.

Articles 5 to 16 of the Milk and Dairies (Scotland) Order, 1925, receive the attention of the dairymen and no contraventions thereof were discovered during the year.

Under the Milk (Special Designations) Order (Scotland), 1923, there were on the register at the close of the year two retailers of Certified Milk. In one instance the dairman procures this milk from premises outwith the Burgh, and in the other case the milk is produced outwith the Burgh and retailed by the producer direct by motor vehicle in the town.

During the month of August I learned that milk had been delivered in the Burgh in bottles bearing the following words "Certified free from Tuberculosis." The affixing of such labels would tend to indicate that the milk purveyed was a Special

Designation Milk, and as the purveyor had not to my knowledge been registered under this Order his attention was directed to the matter. The Official in the district in which his premises were situated was also communicated with and from whom it was ascertained that the purveyor's premises were not registered under the Order. Denial of this act (the affixing of the labels above referred to) was made in writing by the purveyor in question, but as one of the bottles so marked had been retained in my office he was requested to call. As the result of his visit, when confronted with the bottle bearing the label, his admission of the offence was obtained. The serious nature of the complaint was pointed out to him and since then no repetition of this nature has occurred.

HOUSING.

Owing to the prevalence of wet weather during the past year work on the various Developments of the Housing Scheme was somewhat retarded. The Third and Fourth Developments, however, were brought to completion, and 26 houses in the Fifth Development had been finished and occupied, leaving only 24 houses in course of erection at the close of the year. From the following table may be had the particulars of the number of houses erected by the Town Council. Included in this table are the 15 houses at South Court and Abbey Court.

| <i>Development.</i> | <i>Houses occupied at end of year.</i> | | | | <i>Houses in course erection.</i> | | | | <i>Totals</i> |
|------------------------|--|--------|--------|--------|---------------------------------------|--------|--------|--------|---------------|
| | 2 rms. | 3 rms. | 4 rms. | 5 rms. | 2 rms. | 3 rms. | 4 rms. | 5 rms. | |
| First Development, .. | Nil | 20 | 36 | 12 | Nil | Nil | Nil | Nil | 68 |
| Second Development, .. | Nil | 32 | 18 | Nil | Nil | Nil | Nil | Nil | 50 |
| Third Development, .. | Nil | 56 | 15 | Nil | Nil | Nil | Nil | Nil | 51 |
| Fourth Development, .. | 24 | Nil | Nil | Nil | Nil | Nil | Nil | Nil | 24 |
| Fifth Development, .. | 12 | 4 | 10 | Nil | 8 | 16 | Nil | Nil | 50 |
| Abbey Court, .. | 2 | Nil | 3 | Nil | Nil | Nil | Nil | Nil | 5 |
| South Court, .. | 2 | 2 | 1 | Nil | Nil | Nil | Nil | Nil | 5 |
| 42 South Street, .. | 3 | 2 | Nil | Nil | Nil | Nil | Nil | Nil | 5 |
| Totals, .. | 43 | 96 | 83 | 12 | 8 | 16 | Nil | Nil | 258 |

The demand for houses is still acute and some measure of this can be seen from the number of applicants appearing on the Register at the close of the year. For houses of two rooms the number of applicants was 121, for three-roomed houses there were 86 applicants, and for four and five roomed houses there were 38 applicants, making in all a total number of 245 applicants.

Reference was made in last year's report to the extremely unsatisfactory condition of many of the water closets in the houses and that investigations were being made to ascertain the cause of this. These have not yet been completed and this question is still having the attention of the Local Authority.

I have the honour to be,

Gentlemen,

Your obedicnt Servant,

JOHN ROSS, A.R.San.I.,

Sanitary Inspector.

